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ABSTRACT

A project was undertaken to (1) develop plans for a fourth follow-up survey of Project Talent participants approximately seventeen years after their expected graduation from high school, and (2) facilitate user access to the data base. (Initiated in 1957, Project Talent is a longitudinal study regarding the educational, career, and personal experiences of a national sample of 400,000 men and women who were in high school in 1960.) The survey will involve collecting data from 32,000 participants in each of the four 1960 grade cohorts (9 through 12) for an overall total of 128,000. The survey will supplement data already available on career preparation and entry, with data on these individuals' development and establishment in their work and other adult roles and on the continuing role of education in preparing them for adult responsibilities. (This report primarily focuses on describing the procedures followed in carrying out the project activities and the results of these efforts. The activities included developing the survey goals and questionnaire, selecting the sample, developing plans for data collection and analysis, and improving user access to the data. The attachments include references used in determining primary survey research issues, a report on Project Talent advisory panel review, primary surveys research issues and related data constructs, the questionnaire, and the technical sampling plan.) (EM)

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Designing A Study of Adult Accomplishment and Life Quality:

A Report on Phase I of the Project TALENT 17-Year Follow-up Survey and TALENT Data Bank Maintenance Activities

Lauri Steel & Lauress L. Wise

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Ms. Nancy Carr assisted in the address maintenance activities, in the development of the questionnaire and the new tape formats, and in the preparation of materials and reports. Ms. Patti Maloney assisted in the development of the survey rationales, in the development of the questionnaire, and in the preparation of reports and materials and, in addition, served as tape librarian for Project TALENT.

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Finally, the authors gratefully acknowledge the advice and assistance of numerous researchers across the country who have given advice and support in the planning of the 17-year survey.

ABSTRACT

Project TALENT is an ongoing longitudinal study of how individuals develop and use their talents and, in particular, how their educational experiences as youth and adults contribute to this process. The project has developed an extensive base of data on the abilities and characteristics in high school and the subsequent educational, career, and personal experiences through age 29 of over 400,000 men and women who were in high school in 1960. The current report discusses activities carried out under a grant from the National Institute of Education to (1) develop plans for a fourth follow-up of Project TALENT participants during their mid-30s and (2) facilitate user access to the data base for secondary analysis.

The design for the 17-year follow-up survey calls for collecting data on the activities, accomplishments, values, and satisfactions as adults of the TALENT participants. These data will be used to assess the long-term outcomes of these individuals' earlier educational experiences and to determine the extent to which their continuing educational experiences further enhance their ability to develop productive and personally satisfying lives. Project TALENT is uniquely suited to such analyses as it is the only data base possessing both the necessary background data on individuals' abilities and other characteristics in high school and (with the completion of the 17-year follow-up) also sufficient information on the same individuals' experiences and accomplishments as adults.

The survey plans provide for following-up approximately 128,000 of the original 400,000 TALENT participants. The report contains a detailed description of the objectives and rationale for the survey and the characteristics of the sample selected and also a copy of the questionnaire to be used in the first year of the survey. Plans for analysis and reporting of the data, protecting individuals' privacy, and maintaining up-to-date addresses for the sample are also discussed.

Several other activities were carried out to enhance researchers' awareness of the data base and to facilitate their use of TALENT data in

their research. These activities include a survey of potential users to identify possible barriers to the use of TALENT and other large data bases, publication of the response distributions for the 11-year follow-up of the 10th and 9th grade cohorts, and further improvements in the documentation of the data files.

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Chapter 1
INTRODUCTION

Project TALENT has for 20 years represented a major national effort to assess the development and utilization of the aspirations and abilities of America's young men and women. Initiated in 1957, with support from the Cooperative Research Program in the U. S. Office of Education, the National Science Foundation, the National Institute of Mental Health, and several other government agencies, Project TALENT is a longitudinal study of a large, nationally representative sample of men and women who were in high school in 1960 and who are now in their 30s. The project has developed an extensive data base on these individuals' characteristics in high school and their subsequent educational, career, and personal experiences through approximately age 29. These data have been used by Project TALENT staff, and numerous other researchers as well, to study changes in the characteristics of high school students since 1960 and to study how individuals develop their skills during and after high school and how they use their skills in work and other life roles. Such studies are very important for determining how American schools and other social institutions can help young people develop productive and personally satisfying lives.

In 1976, the National Institute of Education awarded a grant* to the American Institutes for Research (AIR) for initiating a 17-year follow-up survey of Project TALENT participants and for carrying out activities aimed at enhancing the utilization of Project TALENT data already available. This report describes the activities carried out in each of these areas and their results.

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*Grant No. NIE-G-74-0003

The 17-Year Follow-Up Survey

From its beginnings, American society has placed considerable value on individual achievement, with a concomitant emphasis on the development and utilization of the individuals' talents. Today, human talent is increasingly being viewed as a social resource as well as an individual asset. Rosen, Crockett, and Nunn (1969) observed that "a nation's survival in a competitive world may depend upon its ability to identify talent, encourage its development, and direct it into socially useful channels." Further, with the increasingly higher rates of technological development, and with increasing numbers of adults competing for job and other societal positions as a result of the maturing of the post-World War II generation, the problem of how to help young people develop and use their talents has become critically important.

From two days of intensive testing of over 400,000 high school students in 1960 and from follow-ups of these individuals one, five, and eleven years after their respective classes graduated from high school, Project TALENT has already collected considerable data relevant to these issues. These include data on individuals' abilities, interests, and early plans and aspirations, data on steps they followed in pursuing their goals (e.g., postsecondary education, military service), data on their early career choices and accomplishments, and data on other experiences as young adults that influenced their life course and accomplishments (e.g., marriage, childbearing, migration). These data have supported many studies of the factors influencing, and the relationships between, individuals' educational attainment, career choice and development, and quality of life as young adults.*

To address more fully questions relating to the development and use of individuals' talents, the original design for Project TALENT projected

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*Further information on the nature of the TALENT samples and the data that have been collected to date is provided in The Project TALENT Data Bank Handbook (Wise, McLaughlin, and Steel, 1977).

a fourth survey of the participants during their 30s. This fourth survey would supplement the data already available on career preparation and entry with data on individuals' development and establishment in their work and other adult roles and on the continuing role of education in preparing men and women for their adult responsibilities.

In this regard it is worth noting that in the eleven-year follow-up, at approximately age 29, nearly one-quarter of the men and approximately one-sixth of the women planned to get further educational degrees. Thus the process of developing one's talents clearly extends well into adulthood. It will be important for developing policies relating to adult education and lifelong learning to explore the extent to which these individuals' plans are realized and how this further education contributes to various aspects of their quality of life. With regard to their career development, many men and women at age 29 were only beginning their careers, due to time spent in graduate school or military service, extended periods of career trial and exploration, and the like. Additional, longer-term outcome data are needed to determine to what extent they are becoming established in their work roles and how well they have been prepared for their life work. Further, many women who in their 20s were primarily concerned with homemaking and child-rearing will in their 30s be seeking to enter or reenter the paid work force. Data will need to be obtained on their capabilities, needs, and experiences as they start or resume working outside the home. Finally, it will be important to look at how men's and women's values, aspirations, and goals change (if at all) during the transition from youth to adulthood, given their varied educational, work, family, and other experiences. Such changes have major implications for educational programs at the secondary, postsecondary, and adult levels, as well as for policies relating to employment and other social institutions.

The current grant supports the activities necessary for initiating a fourth follow-up of Project TALENT participants approximately 17 years after their expected graduation from high school. These activities include (1) specification of the primary research issues to be addressed in the survey and development of the questionnaire to be used in the

first year of the survey; (2) selection of the sample to be surveyed and development of the collection plans; (3) development of plans for data analysis; (4) development of procedures to ensure that individuals' rights to privacy are protected; and (5) development of techniques to maintain current addresses for the sample selected. Chapters 2-6 of this report describe the procedures followed in carrying out these activities and the results achieved.

Maintenance of the Data Base

Maintaining the data base in a way that assures researchers outside of Project TALENT ready access to the data is a major and continuing concern of Project TALENT staff. To facilitate access to the data, the Project TALENT Data Bank was established shortly after the project itself got underway. The Data Bank offers a variety of services to interested researchers, ranging from consulting with them regarding the appropriateness of TALENT data for their particular research studies to making work tapes available for secondary analysis. The efficacy of the procedures established was recognized by Gene Glass (1976) in a discussion of secondary analysis in which he commended the ready availability of the TALENT data to any researcher.

Efforts to facilitate user access to the Project TALENT data base continue. Upon completion of the 11-year follow-up data collection in 1976, all of the master computer files containing 1960, 1-, 5-, and 11-year follow-up data were thoroughly edited and reorganized into a consistent and well-documented format. While the 11-year data added considerably to the value of the data base, and the reorganization of the files greatly facilitated their access and use, it was recognized that simply making these data available was not sufficient to ensure their full use by researchers other than Project TALENT staff.

Several activities were recommended to enhance awareness on the part of potential data base users of the scope and utility of Project TALENT data, as well as to continue to facilitate access to and use of these data. These activities included the publication of the response

distributions for the 10th and 9th grade 11-year follow-up surveys, a widespread dissemination effort aimed at potential Data Bank customers, and further efforts to improve documentation of the data files. These activities are discussed in Chapters 7-9 of this report. Separate reports of (1) results of a survey of potential data base users, (2) the response distributions for the 10th and 9th grade 11-year follow-ups, and (3) the documentation of the tape formats accompany this report.

Chapter 2

SURVEY GOALS AND INSTRUMENT DEVELOPMENT

To ensure that the data resulting from the 17-year follow-up have maximum value for educational researchers as well as for researchers in other disciplines, great care was taken in determining the primary research issues to be investigated and in developing the questionnaire for the first year of the survey. The procedures carried out in developing the survey plans and the questionnaire were as follows:

1. specification of survey goals;
2. identification of primary research issues to be investigated;
3. selection of multidisciplinary advisory panel and critical review and revision of survey plans;
4. development of questionnaire items for survey year one;
5. review and pilot testing of items; and
6. revision of items and designing the format of the questionnaire.

Development and testing of the questionnaires for the second, third, and fourth years of the survey will be carried out in subsequent years, in order to incorporate changes based on experience with the questionnaire during the first year of the survey.

The activities and results associated with each of the above steps are described below.

1. Specification of Survey Goals

Planning for the 17-year survey began with a comprehensive review of earlier research relating to adults' education, career, and personal development. Preliminary investigations revealed that most research on

individual development focused either on the period from childhood through the completion of formal edcation or, more recently, the period of senescence. The intervening 25-30 years have typically been implicitly treated as a period of equilibrium, where one's goals, interests, abilities, and pastimes are essentially constant, the outcome of earlier experiences and choices. However, several social trends, including the increasing numbers of women entering and remaining in the work force, the growing incidence of career changes, and the increasing tendency to intersperse education, work, and, to a lesser extent, leisure throughout one's career, have resulted in increases in research and popular interest in the processes of development during the adult years. (See, for example, Birren and Woodruff, 1973; Brim, 1968; Brim and Abeles, 1975; Entine, 1974; Lowenthal et al., 1975; Maas and Kuypers, 1974; and Sheehy, 1974.) There is also growing interest in and support for a lifespan approach to studies of individuals' development that takes into account individuals' various life roles and how they interact at different points in the life cycle. (See, for example, Bailyn and Schein, 1976; Best and Stern, 1977; Pifer, 1976; and Kanter, 1977.)

Further delineation of the processes by which individuals continue to develop and use their talents during their adult years will make a significant contribution to our understanding of the outcomes of earlier educational experiences and the continuing educational needs of adults. To this end, the 17-year follow-up survey will explore the processes by which individuals in their mid-30s are continuing to develop their skills and are using them in their various adult roles. The primary objectives of the survey are as follows:

1. to assess the long-term impact (benefits and costs) of individuals' educational and other experiences in making the transition from adolescence to adulthood;

2. to examine the various roles and responsibilities men and women must carry out and determine the extent to which they have been prepared to carry them out and the extent to which further preparation or education is needed; and

3. to determine how individuals' various roles and responsibilities interact and collectively impact on their quality of life and well-being.

To achieve these goals, the extensive data already collected on individuals' backgrounds, capabilities, aspirations, and early experiences will be supplemented, through the 17-year follow-up survey, with data on their activities, accomplishments, values, and satisfactions as adults.

2. Identification of Research Issues to be Investigated

In conjunction with the specification of the survey goals, five aspects of adult development were identified for more intensive study. These were (1) the effects of and continuing needs for education and learning experiences, (2) the development of productive and satisfying work roles, (3) the development of rewarding family roles, (4) the development of satisfying leisure and civic roles, and (5) the development of personal values and life styles. Over 200 recent references, including books, journal articles, research reports, and other documents, were reviewed to determine key issues relating to these aspects of adult development and to identify areas needing further research. A list of the relevant references is provided in Attachment 1.

A total of 35 research issues, relating to the five areas listed above, were identified based on this review. A detailed rationale was developed for each research issue, presenting an analysis of the research need, the particular research questions to be addressed, and the data that would be needed to answer these questions.* Each research issue and rationale was reviewed by project staff to make sure that each could be productively investigated using the TALENT data base and that each would yield results of value to educational policymakers or practitioners or to other social planners.

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*A complete set of these research issues and rationales was appended to the TALENT continuation proposal submitted to NIE on July 18, 1977.

3. Critical Review and Revision of Survey Plans

The survey plans, including the goals, proposed research issues, and rationales, along with preliminary sampling and data collection plans, were then submitted for external review by other researchers and by NIE staff. The purpose of this review was to make sure that the results of the survey would have the greatest possible value to NIE and to potential data base users in various fields.

Project Advisory Panel Selection and Review

To ensure that the data collected in the 17-year follow-up survey would have maximum value for researchers in different social science fields, an interdisciplinary panel of advisors was selected and invited to participate in the planning for the survey. The following criteria were considered in choosing panel members.

1. Panel members should bring a variety of social science perspectives to bear on the issues (e.g., education, sociology, psychology, economics).

2. They should be experienced in the design of longitudinal studies and in the analysis and use of longitudinal data.

3. They should be familiar with current policy issues.

4. They should, together, have expertise in the five areas proposed for investigation (career development, lifelong learning, family roles, leisure and civic pursuits, and values and life styles).

The following individuals were selected to serve as advisors to the project.

Ronald Abeles
Social Psychologist
Social Science Research Council
Research Specialty: Social Processes

David Featherman
Professor of Sociology
University of Wisconsin
Research Specialty: Educational and Career Attainment Processes

Paul Barton
Senior Consultant
National Manpower Institute
Research Specialty: Education and School-Work Transition

Orville G. Brim, President
Foundation for Child Development
Research Specialty: Sociology and Adult Development

Glen Elder
Professor of Sociology
University of North Carolina
On leave at Boystown Center for the Study of Youth Development
Research Specialty: Lifespan Development

John Flanagan
Chairman of the Board
American Institutes for Research
Research Specialty: Individual Development and Quality of Life

Hilda Kahne, Economist
Wheaton College
Research Specialty: Women's Career Development

Herbert Parnes
Professor of Economics
The Ohio State University
Research Specialty: Occupational Development and Achievement

In addition, the following three senior AIR staff members with expertise in areas of interest to the survey were consulted:

Richard Rowe, Vice President
American Institutes for Research
Research Specialty: Families and Children

Paul Schwarz, President
American Institutes for Research
Research Specialty: Social Impact

Harold Sheppard, Principal Research Scientist
American Institutes for Research
Research Specialty: Mid-Life Career Development

Each member of the panel was asked to review the general framework and the specific research issues and questions proposed for the survey, and to comment on (1) the appropriateness and/or usefulness of the issues proposed, (2) additional issues relating to policy concerns or to individuals' development that should be investigated, (3) the relative importance of the various issues, and (4) the implications for the survey methodology. Six of the eight panel members met with project staff on April 5, 1977 in New York City to discuss their comments and

suggestions regarding the survey plans.* Two members who were unable to attend the meeting submitted their comments by mail following the meeting. General and enthusiastic support was expressed for the survey as planned. A summary of the specific comments and recommendations made by all of the panel members is presented in Attachment 2.

NIE Review

Because it had not been possible for NIE staff to attend the Advisory Panel meeting in April, a meeting with NIE personnel was scheduled for June 2 by the Basic Skills group. The purpose of the meeting was for project staff to brief interested NIE staff on TALENT in general and the survey plans in particular. The briefing included a general introduction to Project TALENT, a summary of recent activities to make the data base more accessible to the wider research community, and a description of the general goals and specific research objectives for the 17-year follow-up survey and the sampling and data collection plans for the survey. In conjunction with this briefing, a number of separate discussions on specific research issues were held with individual NIE staff members.

Revision of Survey Plans

Following the Advisory Panel and NIE meetings, the survey plans were modified to incorporate the suggestions and recommendations received and to determine the primary issues to be investigated in the survey. Many of the proposed issues and research questions were modified, several issues were combined with others or deleted altogether, and some new issues were added. The result was a total of 36 issues designated for primary investigation in the survey.

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*AIR staff at this meeting included William V. Clemans, Director, Project TALENT; Lauress L. Wise, Deputy Director, Project TALENT; Lauri Steel, Co-Director, TALENT 17-Year Follow-Up; Sandra Wilson, Director, TALENT Physicians Study; Marion Shaycoft, Director, TALENT History; and Lynne Glassman, Assistant to the President of AIR.

In order to maximize the amount of information to be obtained, and thus the scope of the issues that could be investigated, and to capitalize on the special characteristics of the various grade samples, it was decided to emphasize a different aspect of adults' development in each of the four data collection cycles. During the first year, the emphasis would be on men's and women's career development and achievements and how their education had contributed to their achievement. Year 2 would focus on men's and women's family roles and life management activities. Year 3 would emphasize individuals' overall life styles, including their leisure and civic pursuits, and the role of continuing education for individuals with differing life styles. Year 4 would emphasize education and lifelong learning, particularly as they relate to individuals' knowledge and skills as adults. Following this framework, several of the proposed research issues were designated as core issues, to be investigated in all four years of the survey, while others, which focused only on particular aspects of career development, family life, life styles, or lifelong learning, were targeted for investigation in only one or two of the four survey years.

The final step in revising the survey plans was to specify for each research issue the particular pieces of information or constructs (groups of conceptually related items) that would need to be collected through the 17-year follow-up in order to address the research issues. A master list of information needs and constructs was created to provide a basis for developing questionnaire items and also the data analysis plans discussed in Chapter 4 of this report.

4. Developing Questionnaire Items for Survey Year One

A major objective in designing the questionaire for survey year one of the 17-year follow-up was to maximize the amount and quality of information to be obtained while at the same time being sensitive to the tradeoffs between length and complexity of the questionnaire on the one hand and time demands on the respondent and likely response rates on the other. It was felt that the 11-year follow-up questionnaire, which was

12 pages in length, represented the maximum amount of information that could be asked of respondents without seriously jeopardizing the rate of response.

A further constraint on developing the questionnaire concerned the plan for the instrument to be optically scanned, the most cost-efficient means of processing the data. For this reason, objective, multiple-response item formats were to be used whenever possible, in order to minimize the amount of hand coding of responses on the completed questionnaires.

In developing items for inclusion in the year-one survey questionnaire, considerable emphasis was placed on using questions already developed and tried out in other major national surveys. By so doing, the TALENT survey would benefit from information already available on the reliability, validity, and overall utility of these measures. Using existing items would also be a means of building linkages between the TALENT data base and other national data bases. The first task, then, once the information needs and overall constraints were determined, was to identify relevant survey instruments and examine them for potentially useful items.

Approximately 25 existing survey instruments were examined. These included prior TALENT surveys and questionnaires, AIR's Quality of Life surveys, instruments used by the Survey Research Center at the Institute of Social Research, the Current Population Surveys, and surveys being conducted by numerous other researchers throughout the country. In addition, three volumes containing measures of political, occupational, and other social psychological attitudes were also consulted for relevant scales and items. A complete list of the instruments and resources reviewed is provided in Attachment 3.

Once a pool of relevant items was identified for most of the year-one information needs, staff reviewed the items to determine (1) how well they fit the research objectives and (2) how amenable they were to a written questionnaire format. Those questions appearing most promising were adopted or adapted as necessary for the questionnaire.

Adaptation typically involved shortening the items, adding response options of particular interest, or combining closely related items. For those information needs for which no appropriate existing items had been found, staff drafted new items.

Once the items had been selected or drafted, they were assembled into a prototype questionnaire for review and editing. Because this prototype proved to be considerably longer than the projected 12-page questionnaire, several items were deleted, shortened or combined at this stage. In particular, where 4-6 items had been selected relating to a particular construct, the total was, in most cases, reduced to 1-3 items. A total of 88 items were finally approved for external review and pilot testing, along with an additional 16 items to be completed by the respondents' spouses. These items required approximately 13 pages in a prototype questionnaire; further reductions would be based on the results of the review of pilot testing.

5. Critical Review and Pilot Testing

In order to assess both the technical quality of the items and the viability of the prototype questionnaire as a whole for eliciting the desired information, the items were submitted for critical review to researchers in various disciplines, and the prototype questionnaire was tried out with a small sample of TALENT participants, using mail, telephone interview, and in-person administration techniques. The activities and results of each of these efforts are described below.

Critical Review

The draft questionnaire items for year one of the survey, along with a statement of the primary research issues to be investigated and the associated data requirements, was sent to members of the Project Advisory Panel, to interested NIE staff, and to approximately 55 other resaerchers who had expressed interest in the survey. Of the latter group, thirteen individuals offered comments on or suggestions for the questionnaire.

Members of the Project Advisory Panel were asked to give consideration to the following criteria as they reviewed the items.

Conceptualization of the Survey

1. Are the issues proposed for investigation in the survey appropriate? Can TALENT (or studies based on TALENT data) make a significant contribution toward resolving them?

2. Are the constructs identified and the items proposed for year 1 of the survey adequate for investigating these issues? Do the items adequately define the constructs?

Quality of the Items

3. Freedom from ambiguity--are the items likely to be interpreted in the same way by all the respondents?

4. Readability--are the questions phrased in plain English? would the question be comprehensible to respondents with no more than an eighth grade reading level?

5. Appropriateness of options (multiple-choice questions)--do the response options given exhaust the range of possible (or reasonable) responses? are they in a logical order? are the distinctions among the options appropriately fine or gross, in relation to the construct and/or research issue of concern? will the response distributions for the items be meaningful in terms of the research issues?

6. Meaningfulness of items--will the questions and options be meaningful to a variety of groups? are they free of sex or ethnic group bias?

7. Simplicity and convenience in completion--are instructions for marking responses, or completing vs. skipping items, clear? are individual items too long or complex?

They were also informed of the constraints on the scope of the questionnaire, in terms of the maximum amount of data that could be processed and the maximum amount of time a respondent could reasonably be expected to spend filling out the questionnaire.

Comments on the conceptualization of the questionnaire were quite favorable, with several reviewers commenting that areas they felt were particularly important to include in such a survey were indeed included. Several reviewers did note, however, that the length of the questionnaire was likely to be a problem. Many suggestions were offered for improving the quality of specific items and the quality of the data resulting from the items.

Pretest Procedures

The pilot testing of the questionnaire draft was carried out in three stages.

In the first stage a random selection of 96 TALENT participants was chosen from the 11th grade cohort. (The 11th grade cohort was chosen for pilot testing in order to ensure that pilot test participants were not also included in the sample for year 1 of the survey.) Every second name on the list was mailed a draft questionnaire, along with a cover letter explaining the purpose of the survey, and a special page for comments on clarity or difficulty of items and the length of time spent filling it out. Of the 48 mailed questionnaires a total of 11 were accounted for, including 7 completed, 1 deceased, and 3 "dead-end" (returned by Post Office as undeliverable). The rate of return of completed questionnaires, 15%, compares favorably with the response rates experienced in the first month for the first two waves of mailings in the 11-year follow-up (14% for the 12th grade cohort, 10% for the 11th grade cohort, and 9% for both the 10th and 9th grade cohorts). The average length of time required to fill out the questionnaire was 2.5 hours.

The second stage of the pilot test consisted of administering the questionnaire through telephone interviews. Ten TALENT participants (5 males and 5 females) were chosen from those who lived within an approximate radius of 25 miles from the AIR office. The length of time for the telephone interviews ranged from 50 minutes to 1-1/2 hours, plus 15 minutes (on the average) for the Spouse/Partner section. Five spouses answered the questions in this section. Comments from the

interviewees were basically favorable, with participants commenting that the questions were very interesting but also expressing some concern about the length of time required to complete the interveiw.

The third stage of the pilot test was perhaps the most critical as far as soliciting extensive comments on the questionnaire was concerned. Ten individuals, including eight TALENT participants selected from the TALENT 11th grade cohort, were invited to AIR to participate in the pilot testing by completing the questionnaire and discussing the items with TALENT staff. Three separate sessions were held, lasting approximately three hours each, during which the participants gave their reactions to specific items and noted areas of confusion.

A final tabulation of response distributions was made from all the responses given in order to determine the appropriateness of the response options. In addition, respondents' comments on the clarity and the ease or difficulty of the various items were also summarized.

6. Revision of Items and Design of Format

Item Revision

The major objectives in revising the questionnaire were (1) to reduce the length and complexity of the document and (2) to modify several of the items in order to enhance their clarity and their correspondence to items in other major national surveys. Several items which were considered interesting but not essential for investigation of the primary survey research issues were deleted. For many other items, the response options were greatly simplified. Particular attention was devoted to the work and life history items, the SES-related items, and the practical knowledge items. Some additional measures of health and handicapping conditions and of demographic characteristics (sex, ethnic group, religious preference) which had been inadvertently omitted from the first set of draft items were also included. Finally, a short-answer question inquring about significant events in the respondents' lives since high school was included to provide both an indication of their writing ability and information on major sources of change in their lives.

The resulting second draft of the questionnaire again included 88 items, but shorter items and fewer items with multiple parts. The number of items asked of spouses was reduced to 11.

Format Development

In designing the format for the questionnaire, consideration was given both to external constraints (i.e., the need for optical scanning of the responses) and to other considerations likely to affect the respondents' motivation to complete and return the questionnaire. Based on the findings of Scott (1961), Dillman et al. (1974), and Berdie and Anderson (1974), the major concerns in designing the format were as follows:

1. the length of the questionnaire and the time required to fill it out;
2. the interest level of the items included;
3. the apparent value and utility of the information being requested;
4. the sequencing of the questions; and
5. the layout and overall attractiveness of the questionnaire.

While length is clearly an important factor in influencing response rates, Dillman et al. (1974) found that respondents would complete lengthy questionnaires (85-165 items in length) if they found the questions interesting and if they were persuaded that the information generated was indeed important. This finding is also supported by other earlier studies (Scott, 1961).

As indicated previously, plans for the questionnaire had projected 12 pages of questions to be optically scanned. It was decided to incorporate the questionnaire in a 16-page booklet, the central 12 pages of

which could be detached and processed by the computer. The front and back pages would contain name and address information, directions for completing the questionnaire, and questions which could not be optically scanned by the computer (e.g., the job history and life review questions). Provision was made to hand-code key data from the job history question (e.g., current job, years in labor force) within the 12 pages that would be optically scanned.

Considerable thought was given to the sequencing of the items, to ensure that the more complex items alternated with the simpler ones and that the most interesting items (e.g., those concerning life-career path, time allocation, and quality of life) alternated with the less provocative ones (e.g., religion, number of children, number of moves). Statements regarding the purpose of asking various sets of questions were also incorporated in the questionnaire.

Finally, a cover letter outlining the purposes and importance of the survey, the uses to be made of the data, and the procedures for safeguarding respondents' rights to privacy was prepared. This letter is discussed in greater detail in Chapter 5 of this report.

Review and Tryout of Revised Questionnaire

The revised questionnaire was circulated to AIR and NIE staff for review. It was also given a final brief tryout by eight TALENT participants in the local area. Individuals were first contacted by telephone to ascertain their willingness to participate in the pilot test. Copies of the revised questionnaire were then mailed to these individuals along with return envelopes. Four of the eight individuals returned the completed questionnaires with comments and one additional participant returned comments on the questionnaire, although he did not complete the questionnaire itself.

Follow-up phone calls were made to these eight individuals to explore their reactions to the questionnaire and, in the case of the participants not responding by mail, their reasons for not returning the questionnaire. Two individuals responded that they had not yet finished

filling out the instrument but would do so and mail it in within the week. Two others declined to fill it out, one saying that she wasn't interested and was too busy, and the other reporting that it would take too much of his time and that he was concerned about the confidentiality of his responses.

It is interesting to note that in the first round of the pilot test, only 7 of the 48 mailed questionnaires, or 15%, were completed and returned, while in the second round, 6 of the 8 questionnaires, or 75%, were completed and returned. While the number of individuals involved in the second round was small, the very considerable increase in response rate suggests that a brief telephone contact prior to mailing the questionnaire, or within a short period after the mailing, is likely to be an effective strategy for increasing the rate of response in the mail survey. This strategy will be incorporated in part in the locating and follow-up techniques to be followed in the 17-year survey. (These procedures are discussed in detail in Chapter 3 of this report.)

As indicated above, two of the participants in the second round of pilot testing objected to the length and complexity of the questionnaire. The remaining men and women, however, felt that the questionnaire was interesting and they did not mind spending the time to fill it out. The amount of time required ranged from one to one and a half hours, with most respondents reporting it took approximately an hour to complete. Some minor modifications were also suggested in several of the items to clear up points of confusion.

Reviewers' comments paralleled those of the respondents, with some editorial changes in items proposed and some suggestions offered for further shortening the questionnaire. One concern expressed related to the placement of the job history item at the front end of the questionnaire. This had been done to facilitate optical scanning of the objective-format items; repositioning of this item will depend on the particular requirements of the subcontractor selected for printing and scanning the questionnaire during Phase II (data collection and analysis) of the survey.

Final Revision of Issues, Data Constructs and Items

Final revisions were made in the questionnaire based on the comments of staff reviewers and of the TALENT participants. Revisions focused on clarifying the wording of particular items and further simplifying some of the questions. In addition, the number of items was reduced from 88 to 83 in order to reduce further the complexity of the questionaire and the time required to fill it out. The list of primary research issues to be investigated and the associated data items and constructs were also modified somewhat to reflect the changes made in the year-one questionnaire. These lists are presented in Attachment 4. A copy of the final questionaire is presented as Attachment 5.

Chapter 3
SAMPLING AND DATA COLLECTION PLANS

In a marked departure from the procedures used in prior TALENT follow-up surveys, only a portion of the original sample will be surveyed in the 17-year follow-up. Increasing costs of mailing and processing questionnaires, together with the gradually decreasing number of participants for whom current addresses are available, make the strategy of mailing to all of the original participants more costly and less effective. Instead, multiple samples have been drawn from the participants in each of the four 1960 grade cohorts, and the data collection procedures have been tailored to emphasize groups of particular interest within these samples. In all, approximately 32,000 participants will be surveyed in each of four data collection cycles for a total of 128,000 overall. Each data collection cycle will focus on one of the four 1960 grade cohorts (the high school classes of 1960 through 1963). The data collection procedures have been designed to achieve response rates ranging from 60% for the group of least importance up to 90% for a central sample of 6,000 cases in each data collection cycle.

The first section of this chapter discusses the composition of the 17-year survey samples, the objectives underlying the sampling design, and the procedures used in drawing the sample. The second section describes the overall approach to data collection and the different levels of effort to be used in following up the nonrespondents within each sample and concludes with targets for the response rates to be obtained at each level.

Sampling Plan

The 17-year survey sample was designed to fulfill the following objectives:

- The basic sample should include a minimum of 30 equally representative cases from subgroups as large as 1 percent of the

total population. (Statistics based on fewer than 30 cases are relatively unstable and generally should not be reported.)

- The effective sample size (after adjusting for unequal case weights) for unbiased estimates of national norms should be as large as is feasible.

- The overall number of cases should be as large as feasible in order to facilitate studies of small homogeneous subgroups and exploratory studies in which each individual is his or her own control. (In such studies, the overall number of cases is of primary importance rather than the effective number of cases after weighting to achieve national norms.)

- There should be a larger proportion of cases selected from groups of high interest but lower population frequency, such as minorities.

- A higher proportion of cases should be selected from groups for whom important additional data are available, including respondents to prior surveys, the 1963 retest cases (for whom both 9th grade and 12th grade test scores are available), the 4% sample cases (for whom complete item data on the 1960 tests are available), the Knox County cases (where the initial sampling was 100% and so 1960 data are available on both spouses in a high proportion of families), and the 1,000 cases for whom in-depth interview data obtained at age 30 are available.

Sample Composition and Rationale

In order to meet the multiple objectives for the sample design, four separate groups were selected from each 1960 grade cohort as shown in Figure 1. The first group, a Control Sample of 1,000 participants from each grade cohort, will be surveyed in all four data collection cycles. As a result, responses to all of the questions asked in each of the different data collection cycles will be available for this group.

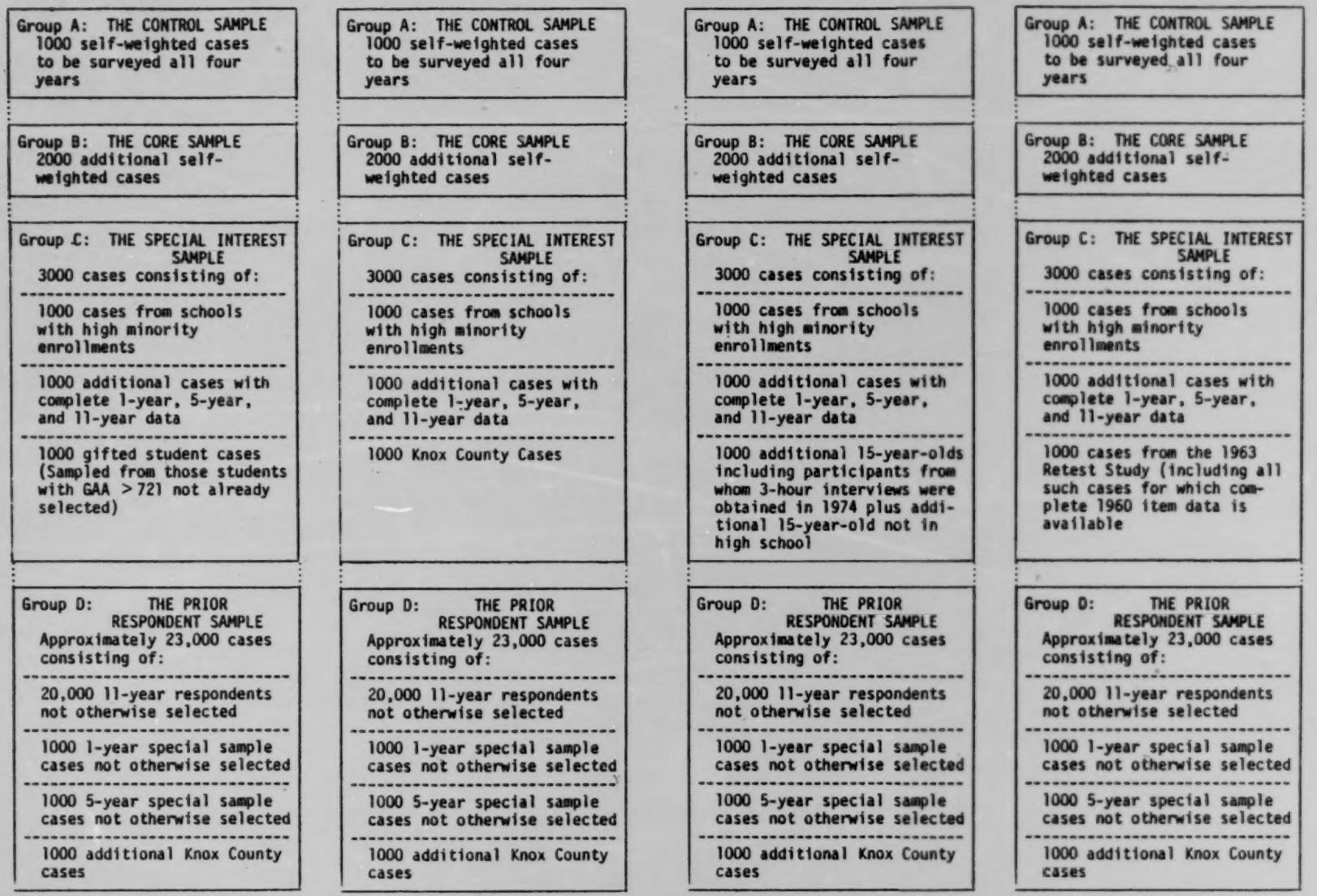
12th Grade Cohort
11th Grade Cohort
10th Grade Cohort
9th Grade Cohort
Group A: THE CONTROL SAMPLE
1000 self-weighted cases to be surveyed all four years
Group B: THE CORE SAMPLE
2000 additional self-weighted cases
Group C: THE SPECIAL INTEREST SAMPLE
3000 cases consisting of:
1000 cases from schools with high minority enrollments
1000 additional cases with complete 1-year, 5-year, and 11-year data
1000 gifted student cases (Sampled from those students with GAA > 721 not already selected)
1000 Knox County Cases
1000 additional 15-year-olds including participants from whom 3-hour interviews were obtained in 1974 plus additional 15-year-old not in high school
1000 cases from the 1963 Retest Study (including all such cases for which complete 1960 item data is available
Group D: THE PRIOR RESPONDENT SAMPLE
Approximately 23,000 cases consisting of:
20,000 11-year respondents not otherwise selected
1000 1-year special sample cases not otherwise selected
1000 5-year special sample cases not otherwise selected
1000 additional Knox County cases

Figure 1. Samples drawn from each 1960 grade cohort, with target sample sizes

This group will thus provide the basis for interrelating the information collected in only 1 or 2 of the data collection cycles. In addition, this group will serve an important control function for information collected identically in all cycles. Differences among the four grade cohorts in the control sample or differences in the same cohort over the four years indicate possible historical effects. The introduction of new high school mathematics programs, changes in Selective Service deferment policies, differences in labor market conditions at high school graduation, and other such factors created significant differences in the alternatives available to the four cohorts. Further, we can only guess at the changes that may occur during the course of the survey. Differences among the groups may also reflect the varying points in the life cycle at which the data were collected, ranging from 14 to 20 years post high school. This special control group will enable the detection and analysis of such potentially critical differences.

The second group, the Core Sample, consists of 2,000 participants in each cohort who, together with the Control Sample cases, will be designated as the primary public use sample. These cases will be selected so that case weights are not needed in estimating national norms in order to simplify analyses and to reduce the potential for erroneous conclusions resulting from inappropriate statistical techniques. In order to maximize correspondence with the 11-year survey, the Core and Control Samples have been constructed primarily from 11-year survey respondents using members of the special sample of mail survey nonrespondents to represent all of the mail survey nonrespondents. (See Rossi, Wise, Williams, and Carrel, 1976 for a more complete description of the special sample of mail nonrespondents.)

The third group, the Special Interest Sample, consists of 3,000 participants selected from groups of particular research interest. The Special Interest Sample includes (1) approximately 1,000 minority cases for use in studies of educational and career equity; (2) approximately 1,000 cases with complete data from the 3 prior follow-ups; and (3) approximately 1,000 cases designed to capitalize on unique aspects of the particular grade cohort. For the 9th grade cohort, the final 1,000

cases were drawn from the sample of those 9th graders retested in 1963; for the 10th grade cohort, the final 1,000 cases include the cases from whom three-hour interviews were obtained as part of the special study on educational goals (see Flanagan & Russ-Eft, 1975) and the 15-year-olds who were not in high school in 1960; for the 11th grade cohort, the final 1,000 cases were drawn from the Knox County saturation sample in which a high proportion of the participants' spouses were also TALENT participants; and for the 12th grade, the final 1,000 cases were drawn from the upper 5% on the general academic aptitude composite (GAA) for use in studies similar to the Terman study of gifted students.

The fourth group selected from each grade cohort, the Prior Respondent Sample, includes roughly 22,000 cases per grade cohort consisting of all 11-year regular and special sample respondents not otherwise selected, all 1-year and 5-year special sample respondents not otherwise selected, and 1,000 Knox County cases. It is anticipated that the response rate to the mailed questionnaires for the 11-year respondents will be as high as 50-60%, since reasonably current addresses are available and since these individuals have demonstrated a willingness to respond to such surveys. Since finding the hard-to-locate cases and obtaining their cooperation is by far the largest component of the data collection costs, the addition of these cooperative cases will increase the raw sample size with a minimal increase in overall cost. With this procedure, it is estimated that the raw number of respondents for each wave of the survey can be increased from about 5,500 to over 16,000, with a cost increase of only 10%. These additional cases will also be maximally valuable in longitudinal analyses since all have 1960 and 11-year follow-up data, and most will have 1-year and 5-year data as well. With the addition of 17-year follow-up data, we will have information collected at five different stages in these respondents' educational and career development (and at six points for the 1963 retest cases)!

The four groups selected from each grade cohort are organized into four nested samples as shown in Figure 2. Tables 1 through 4 show the number of cases actually drawn from each grade cohort. Table 5 shows the resultant composition of the target samples for each data collection cycle.

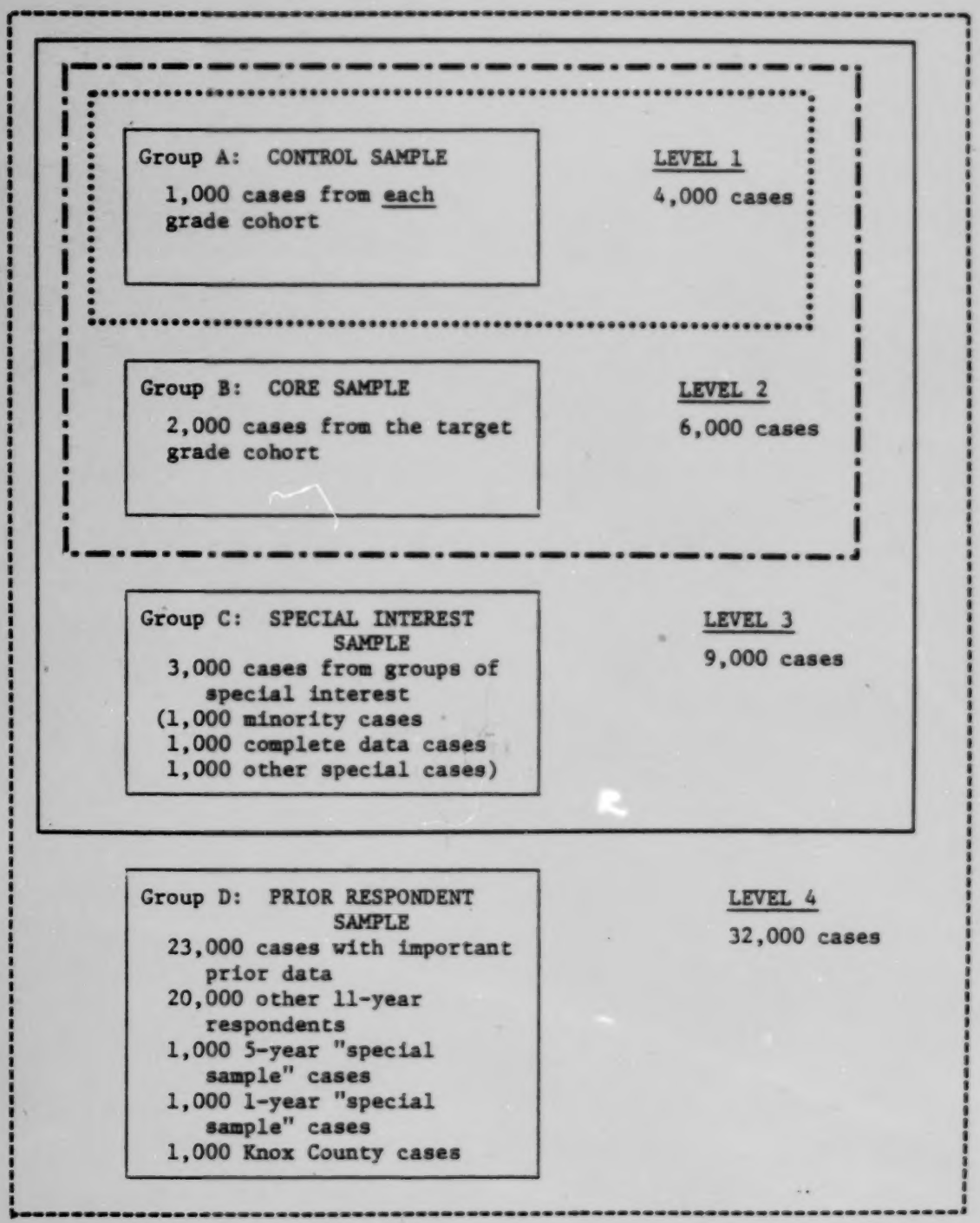

Figure 2. Nested samples for each data collection cycle

Table 1. Number of 12th Grade Cohort Cases Selected for Each Level of the 17-Year Survey Sample by 1-Year, 5-Year and 11-Year Response Status.

	Regular (Mail Survey) Respondent	Special Telephone Follow-up Sample Number	Other Nonrespondent (Not in Special Sample)	Total*
Level 1: Control Sample				
1-Yr. Follow-up Status	628	16	370	1,014
5-Yr. Follow-up Status	383	31	600	1,014
11-Yr. Follow-up Status	282	717	15	1,014
Level 2: Control and Core Samples				
1-Yr. Follow-up Status	1,864	47	1,103	3,014
5-Yr. Follow-up Status	1,139	77	1,798	3,014
11-Yr. Follow-up Status	844	1,965	205	3,014
Level 3: Control, Core, and Special Interest Samples				
1-Yr. Follow-up Status	3,791	479	1,757	6,027
5-Yr. Follow-up Status	2,229	867	2,931	6,027
11-Yr. Follow-up Status	2,818	2,028	1,181	6,027
Level 4: All Cases				
1-Yr. Follow-up Status	20,703	1,270	5,947	27,920
5-Yr. Follow-up Status	16,761	1,962	9,197	27,920
11-Yr. Follow-up Status	22,670	2,225	3,025	27,920

*The actual sample sizes vary slightly from the target sizes due to the fact that while the target sizes for each cell contained fractional values but the number of cases drawn was necessarily an integer. The difference between the target and actual sample sizes was less than one for each of the 540 cells.

Table 2. Number of 11th Grade Cohort Cases Selected for Each Level of the 17-Year Survey Sample by 1-Year, 5-Year and 11-Year Response Status.

	Regular (Mail Survey) Respondent	Special Telephone Follow-up Sample Member	Other Nonrespondent (Not in Special Sample)	Total
Level 1: Control Sample				
1-Yr. Follow-up Status	472	27	505	1,004
5-Yr. Follow-up Status	350	28	626	1,004
11-Yr. Follow-up Status	248	742	14	1,004
Level 2: Control and Core Samples				
1-Yr. Follow-up Status	1,409	83	1,506	2,998
5-Yr. Follow-up Status	1,047	83	1,868	2,998
11-Yr. Follow-up Status	746	2,052	200	2,998
Level 3: Control, Core, and Special Interest Samples				
1-Yr. Follow-up Status	2,102	1,055	1,844	5,001
5-Yr. Follow-up Status	1,478	1,099	2,424	5,001
11-Yr. Follow-up Status	1,749	2,087	1,165	5,001
Level 4: All Cases				
1-Yr. Follow-up Status	17,885	2,622	7,810	28,317
5-Yr. Follow-up Status	17,163	2,546	8,608	28,317
11-Yr. Follow-up Status	22,962	2,418	2,937	28,317

Table 3. Number of 10th Grade Cohort Cases Selected for Each Level of the 17-Year Survey Sample by 1-Year, 5-Year and 11-Year Response Status.

	Regular (Mail Survey) Respondent	Special Telephone Follow-up Sample Number	Other Nonrespondent (Not in Special Sample)	Total
Level 1: Control Sample				
1-Yr. Follow-up Status	422	23	556	1,001
5-Yr. Follow-up Status	315	26	660	1,001
11-Yr. Follow-up Status	203	780	18	1,001
Level 2: Control and Core Samples				
1-Yr. Follow-up Status	1,273	70	1,660	3,003
5-Yr. Follow-up Status	952	81	1,970	3,003
11-Yr. Follow-up Status	604	2,137	262	3,003
Level 3: Control, Core, and Special Interest Samples				
1-Yr. Follow-up Status	2,075	688	2,715	5,478
5-Yr. Follow-up Status	1,424	854	3,200	5,478
11-Yr. Follow-up Status	1,612	2,180	1,686	5,478
Level 4: All Cases				
1-Yr. Follow-up Status	16,575	2,432	8,306	27,313
5-Yr. Follow-up Status	15,180	2,650	9,483	27,313
11-Yr. Follow-up Status	19,773	2,417	5,123	27,313

Table 4. Number of 9th Grade Cohort Cases Selected for Each Level of the 17-Year Survey Sample by 1-Year, 5-Year and 11-Year Response Status.

	Regular (Mail Survey) Respondent	Special Telephone Follow-up Sample Member	Other Nonrespondent (Not in Special Sample)	Total
Level 1: Control Sample				
1-Yr. Follow-up Status	448	27	527	1,002
5-Yr. Follow-up Status	261	16	725	1,002
11-Yr. Follow-up Status	192	800	10	1,002
Level 2: Control and Core Samples				
1-Yr. Follow-up Status	1,347	80	1,573	3,000
5-Yr. Follow-up Status	789	45	2,166	3,000
11-Yr. Follow-up Status	573	2,381	46	3,000
Level 3: Control, Core, and Special Interest Samples				
1-Yr. Follow-up Status	2,689	871	2,451	6,011
5-Yr. Follow-up Status	1,540	692	3,779	6,011
11-Yr. Follow-up Status	1,985	3,006	2,020	6,011
Level 4: All Cases				
1-Yr. Follow-up Status	20,638	2,739	8,444	31,821
5-Yr. Follow-up Status	15,450	1,572	14,799	31,821
11-Yr. Follow-up Status	19,937	3,794	8,090	31,821

Table 5. Composition of the Samples for Each Data Collection Cycle

	1st Data Collection Cycle (1/78-6/79)	2nd Data Collection Cycle (1/79-6/80)	3rd Data Collection Cycle (1/80-6/81)	4th Data Collection Cycle (1/81-6/82)
Control Samples Cases	4,021	4,021	4,021	4,021
Core Sample Cases	2,000	1,994	2,002	1,998
Special Interest Sample Cases				
Unique Interest Group	1,077	1,000	983	1,257
High Minority Enrollment	1,081	1,064	1,085	1,274
Prior Data Cases[1]	2,106	1,377	1,588	1,947
TOTAL Special Interest Cases[2]	3,013	3,003	3,005	3,011
Other Prior Respondent Sample Cases				
Other 11-Year Regular Respondents	19,852	21,213	18,161	17,952
Other 11-Year Special Sample Respondents	197	331	237	788
Other 5-Year Special Sample Respondents	1,095	1,447	1,796	880
Other 1-Year Special Sample Respondents	791	1,567	1,744	1,868
Other 1963 Retest Cases	---	---	---	5,051
Knox County Cases	1,000	1,000	1,000	1,000
TOTAL Other Prior Respondent Cases[2]	22,893	23,316	23,835	26,810
TOTAL ALL CASES	31,927	32,334	32,863	35,840

[1] Prior Data Cases include individuals responding to all three mail surveys plus an oversampling of these in the 1-year and 5-year special follow-up samples.

[2] The Total Special Interest and Prior Respondent Sample Cases is less than the sum of the totals shown for groups within these samples because of the overlap between these groups (the same case could be included in several of the groups).

Overview of Procedures Used to Select the Sample

A description of the technical procedures used in drawing these samples is included in Attachment 6 to this report. These procedures were designed to ensure the inclusion of the maximum number of cases with prior data within the framework outlined above. These procedures take advantage of the fact that among nonrespondents to the 11-year mail survey, selection for the special telephone follow-up was uncorrelated with all other variables, so that the 11-year special sample members are representative of all 11-year mail nonrespondents.* Since data are available on nearly all of the special sample members, the proportion of cases with 11-year data was greatly increased by sampling the special sample members first among the 11-year nonrespondents. A similar procedure cannot be applied to the 1-year and 5-year special telephone follow-up samples, however, as inclusion in these samples is correlated with the probability of responding to the 11-year survey (because of the efforts made to find current addresses for this group as well as because of their interaction with the TALENT interviewers). Therefore, it was necessary to oversample 1-year and 5-year respondents (particularly special sample members, since each of them represents many more individuals in the original population when using 1-year or 5-year weights) in order to ensure that a large and representative sample of participants for whom 1-year and 5-year survey data are available were included in the 17-year sample.

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*For each of the prior follow-up surveys, each original participant has been classified into one of four response categories:

(1) regular respondents are those responding to the mailed questionnaires.
(2) special sample respondents are those nonregulars who were selected for the telephone follow-up survey and were subsequently located and interviewed.
(3) special sample nonrespondents are those nonregulars who were selected for the telephone follow-up but were not interviewed.
(4) other nonrespondents are those nonregulars who were not selected for the telephone follow-up survey.

The term "nonregulars" refers to groups (2), (3), and (4), while groups (2) and (3) are referred to as "specials."

The number of 11-year special telephone follow-up sample members selected for each group is maximized through one further refinement--an additional stratification of nonregulars (i.e., both the special sample members and the other nonrespondents to the mail survey not selected for this special sample) on the basis of 1960 Weight A.* In order to make each case selected represent equal numbers in the population (eliminating the need for case weights and maximizing the effective sample size), it is necessary to reverse the 1960 sampling ratios. So, for example, if a particular group were to represent the population with an overall ratio of 1 to 75, it would be necessary to take only one of every 5 cases with a weight of 15 (i.e., one case for every 5 x 15 = 75 in the original population) while taking all of the cases with a weight of 75. If the special sample members and other nonregulars were not further stratified, at least 80% of the specials with a weight of 15 would thus be rejected and a correspondingly higher proportion of other nonregular respondents (for whom 11-year data are not available) would be selected. By stratifying on 1960 weight, however, it was possible to vary the ratio of specials (for whom 11-year data generally are available) to other nonregulars across the weight levels so as to take virtually all of the specials first within each level of 1960 Weight A. The importance of this refinement is illustrated by one group of 11th graders, for whom this final stratification allowed us to select 979 out of 1,189 specials. The maximum equally weighted samples would otherwise have included at most 339 specials.

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*The 1960 Weights A are the inverse of the original sampling ratios for each case and thus indicate how many cases in the target population are "represented" by each sample member. (If 1/20th of the cases in a particular cell were selected, then each selected case "represents" 20 cases from the cell.) The 1960 Weights A range from 3.0 to 75.0 as described in Chapter 2 of The Project TALENT Data Bank Handbook (Wise, McLaughlin, and Steel, 1977).

Data Collection Plans

In conjunction with changes in the sampling design, substantial changes in the strategy for locating and interviewing members of the target samples have been planned. Prior follow-up surveys were conducted in two stages for each grade cohort. The first stage was a survey consisting of four waves of mailed questionnaires. In the second stage, a sample of about 2,500 nonrespondents to the survey by mail was subjected to intensive location efforts and interviewed by telephone. The second stage generally lasted 6 to 8 months after the completion of the survey by mail.

In order to increase the efficiency of the data collection procedures, particularly in light of recent changes in the postal rates, the 17-year survey plans contain several significant changes from past TALENT follow-up surveys. The special nonrespondent sample selected at the conclusion of the survey by mail will be replaced by the Control and Core Samples (described above), selected prior to the first mailing. The procedures for locating members of these samples can then begin whenever their addresses are found to be obsolete rather than at the conclusion of the survey by mail. In fact, the recent efforts to flag obsolete addresses based on 1976 Project TALENT News returns will allow us to begin to locate new addresses for a significant number of cases even before the first mailing of questionnaires. This approach is vital to keeping mailing costs in line, because the cost of mail returned by the Post Office due to obsolete addresses has doubled since the 11-year survey (from 12¢ to 25¢ per questionnaire). A second benefit of interspersing locating procedures and mailings is that the number of cases to be interviewed by telephone can be markedly reduced, resulting in still further savings. In order to further reduce the mailing costs, the spacing between mailing waves will be increased from four to seven and one-half weeks so as to allow for the inclusion of as many new addresses as possible in each wave and to greatly reduce the number of questionnaires sent to people who have already completed one.

A new Response Status System has been designed to regularly update the mailer file for the data collection cycle in order to maintain "response status codes." These codes will indicate whether a questionnaire has been completed, the status of the address, which locating procedures have been or are being used, and whether a telephone interview is scheduled. The system will allow us to proceed rapidly with locating procedures appropriate to each case.

The locating procedures have been split into three levels of effort in order to focus more sharply on the cases of greatest importance. Minimal Effort procedures will be used for all 17-year survey cases for whom we do not have a current addresss. The procedures will be initiated as soon as a participant's address on file is found to be obsolete. For all level 3 sample cases (Control, Core, and Special Interest Samples) these procedures will also be initiated if responses are not received by the third mailing wave, even if there is no direct evidence that their address on file is obsolete. Minimal effort procedures include consulting telephone directories or information operators for the area of the last known and/or 1960 address and then making a single telephone call to a telephone number found for the participant or a parent or relative to obtain the address and, in the case of the participants, to inform them of the survey.* The estimated cost of these procedures is an average of $1.75 per case processed. It is anticipated that roughly half of the nonrespondents to the mailed questionnaires will be located at their last known address and that about 40% of those that have moved will also be located.

Medium effort locating procedures will be used for all level 3 sample cases not located by the minimal effort procedures. Medium effort procedures include checking for marriages for women (to find new names) and checking Departments of Motor Vehicles in the state of the

*In pilot testing the year 1 questionnaire for the 17-year survey, the return rate was raised from roughly 15% to 75% when the potential respondents were contacted by telephone before mailing the questionnaires. While the latter sample was extremely small, similarly dramatic success with such a procedure has also been found in other studies (see, for example, McLaughlin, 1976).

last known address. In states where such records are not available, checking with their high school and, where appropriate, checking college records will be substituted. The estimated cost of these procedures is an average of $12 per case processed, with an anticipated success rate of roughly 35% of those not found by minimal effort procedures.

Intensive effort locating procedures will be used only for Control and Core Sample cases not found by the medium effort procedures. Intensive effort procedures include checking with city directories and then former neighbors, checking classmates and voter registration records, and the selective use of retail credit organizations. These procedures are estimated to cost up to $30 per case processed with an anticipated success rate of 60% for cases not found with medium effort procedures.

All of the participants located will be informed of the goals of the survey and encouraged to fill out and return a questionnaire (either one they have already received, if one is available, or one they will receive from the next mailing). All Core and Control Sample members who have been located but have not responded by five weeks after the final mailing will be targeted for telephone interviews. It is anticipated that telephone interviews will be obtained from at least 80% of the targeted cases at an estimated cost of $15 per case. All of the above cost and effectiveness estimates are based on analyses of the 11-year survey procedures reported in Methodology of the Project TALENT 11-Year Follow-Up Study (Rossi, Wise, Williams, and Carrel, 1976).

Figure 3 illustrates the anticipated case flow under this three-level procedure and shows estimates of the numbers of cases to be subjected to each level of locating procedures. Table 6 summarizes the expected number and proportion of cases in each subsample from whom data will be obtained under the design outlined above.

Figure 3

Project TALENT 17-Year Survey Data Collection Plan:

Anticipated Response Rates for Each Data Collection Cycle

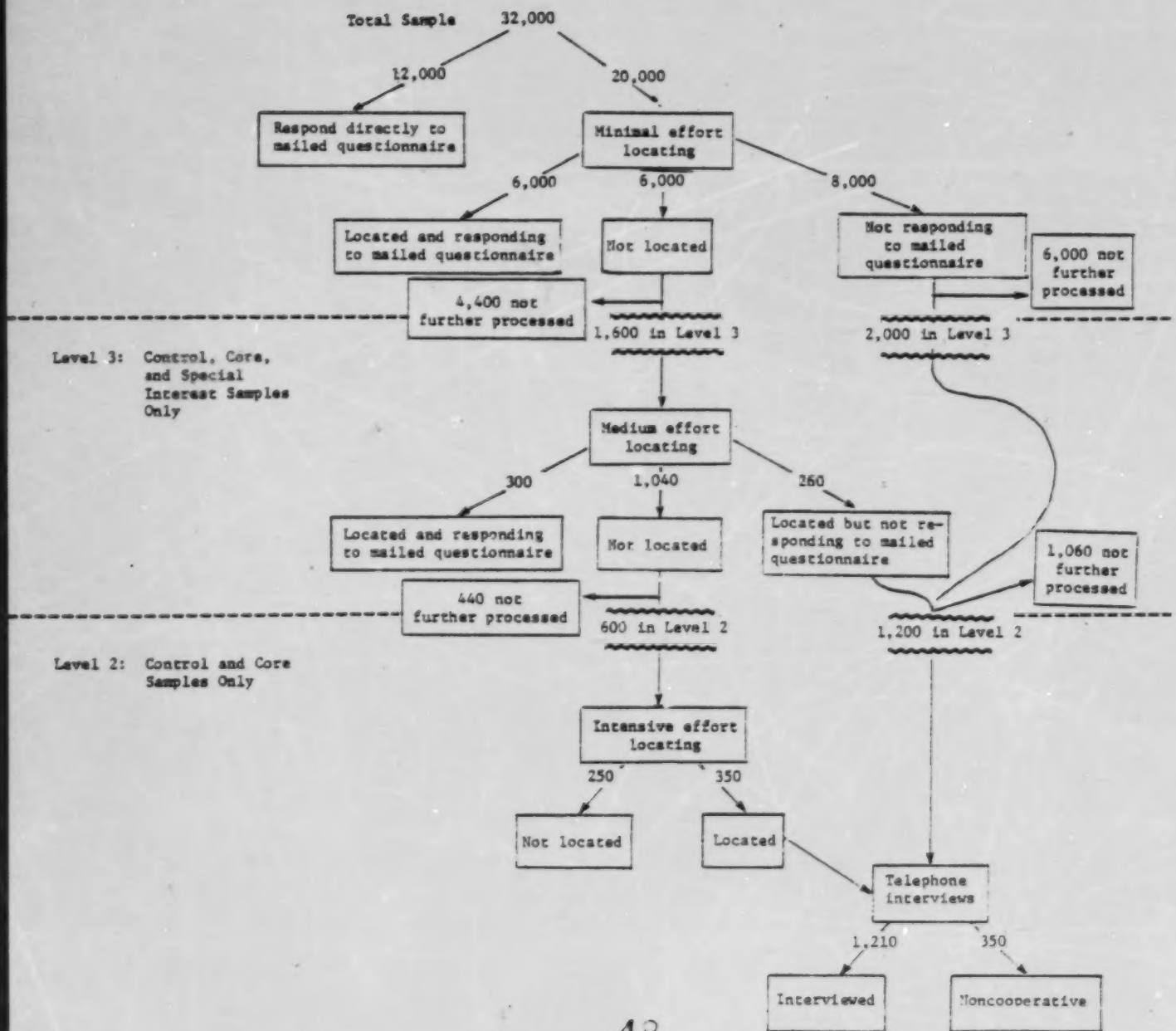

Table 6

Anticipated Summary Response Rates for Each Level of Effort

	Level 2	Level 3	Level 4
	Control and Core Samples	Control, Core, and Special Interest Samples	All Cases
Total N	6,000	9,000	32,000
Minimal Effort Respondents	4,000	5,200	18,000
Medium Effort Respondents	200	300	300
Intensive Effort Respondents	1,210	1,210	1,210
Total Respondents	5,410	6,710	19,510
% Responding	90%	75%	61%

Chapter 4

PLANS FOR PRELIMINARY DATA ANALYSIS AND REPORTING

Once the data are collected for each of the four data collection cycles, a comprehensive report of the survey results for that cycle of the survey will be prepared. The purpose of these reports will be to document the results of each cycle of the survey and to suggest important avenues of further investigation.

With the eleven-year follow-up survey, reports of the survey results were limited to a presentation and discussion of the response distributions for each item in the survey for each of the grade cohorts: The American Citizen (Wilson and Wise, 1975), presenting results for the 12th and 11th grade cohorts, and The American Citizen, Volume II (Wise, McLaughlin, and Gilmartin, 1977), presenting results for the 10th and 9th grade cohorts. For the 9th and 11th grade cohorts, the mean General Academic Aptitude (as measured in 1960) was also reported for each response group (i.e., the groups of individuals selecting each response option for each question). For the 10th grade cohort, the mean SES level (as measured in 1960) was reported for each response group. Results were presented separately by grade in 1960 and by sex.

For the 17-year follow-up data, we plan to augment these reports by including, in addition to the response distributions for each item, analyses of the first-order relationships between selected background variables and responses to the 17-year follow-up questions. These analyses will provide the basis for more substantive investigations of particular research questions. For each analysis, one or more tables will be prepared showing crosstabulations between the variables of concern. A sample of such a table, designed to report the relationships between level of education and earnings by job group, is provided in Figure 4. It is estimated that approximately 30-40 such analyses will be carried out and reported for each of the four survey cycles.

In determining the specific analyses to be performed for each cycle of the survey, consideration will be given to three factors:

Table XX. Earnings at Age 35 by Level of Education
Controlling for Career Type, Initial SES, and General Academic Aptitude

Current Career Group	No High School Diploma	No Post Secondary Education	Vocational School Training	Community College		College				
				no degree	only AA degree	1 year	2 years	more than 2 but no degree	Bachelor's degree	advanced work
1. Engineering, Physical Science, Mathematics and Architecture										
2. Medical and Biological Sciences										
3. Business Administration										
...										
11. Secretarial-Clerical office workers										
12. General Labor, Community and Public Service										

The entries in this table will show how much more or less respondents in each career group with a specified level of education earn in comparison to the earnings expected for all individuals in the career group with similar abilities (GAA) and socioeconomic status (SES). For each career group a multiple regression equation predicting earnings from GAA and SES will be derived and used as the basis for estimating the expected incomes. For each entry an estimate of the level of accuracy (the approximate 95% confidence interval) will be shown. Thus $-1.55 \pm .15$ will indicate a mean deviation that is almost surely between -1.40 and -1.70 (in thousands of dollars) for the intended population.

FIGURE 4. An example of the type of tables to be produced in addressing the issue "What are the relationships between postsecondary education and career progress"

- Inclusion of key educational and other important background variables for which we want to examine long-term outcomes (e.g., level of education, type of postsecondary program, timing of postsecondary education in relation to other life events, aspirations in high school);

- Inclusion of key outcome variables relating to the emphasis of the particular survey year (e.g., career achievement--earnings, prestige, job satisfaction, career establishment) as well as other important outcomes (e.g., leisure and civic pursuits; health; quality of life overall and in specific areas; practical knowledge levels; current SES);

- Inclusion of selected experiential variables likely to be important moderators of the relationships between the background and outcome variables (e.g., continuing education experience, current job or job group, marital status and family situation, value structure and lifestyle orientation).

While it will clearly not be possible within the scope of the proposed reports and the expected funding level to carry out and report all of the possible analyses suggested by the survey research issues listed in Attachment 4, an effort will be made to examine the most central relationships for each of the core research issues in a given year.

Proposed Analyses

As indicated previously, the emphasis in year-one of the 17-year follow-up survey is on assessing men's and women's career development and achievement at age 35 and the extent to which their education has contributed to their achievement. For this reason, many of the proposed analyses will focus on this relationship. Other analyses to be carried out will examine the relationships between respondents' educational and other background experiences and characteristics, on the one hand, and other aspects of their adult lives (e.g., continuing education, family roles, leisure and civic pursuits, health and well-being) on the other.

Figure 5 presents a list of the variables and relationships to be analyzed and reported in the year-one survey report. As can be seen, the analyses range from simple crosstabulations to more complex analyses of how individuals' attainments on selected measures differ from what might have been expected based on their socioeconomic stauts (SES and general academic aptitude (GAA) in high school.

The reports for the subsequent years of the 17-year follow-up survey will likely include many of the same analyses proposed for the year-one report. However, greater emphasis will be given to analyses of family relationships, life style, and education and learning, respectively, reflecting the different research emphases of the second, third, and fourth data collection cycles. The specific analyses to be performed in years two, three, and four of the survey will be identified in conjunction with developing the questionnaires for those survey years.

Format of Proposed Reports

Separate reports will be prepared for the results of each of the four data collection cycles. As with the reports of the eleven-year follow-up results, the reports will briefly describe the goals of the survey and its methodology. The major part of the reports will concern the results obtained.

With the 17-year survey reports, discussions of the results will focus on each of the primary research issues investigated in that year of the survey. The discussions of each issue will be based on both the response distributions for items relating to that issue and on the results of the analyses relating to that issue. Tables showing the response distributions for each of the survey items will be presented in an appendix to the report.

The proposed report should have considerable value for researchers interested in examining the full range of results for the survey in order to determine the relevance of the data for their own research purposes. The proposed format has the additional advantage of lending itself readily to the preparation of short and concise reports (approximately four pages in length) that focus on a single research issue or a

Relationships between Educational Background and Career Development

1. Earnings at age 35 (relative to expected earnings based on GAA and SES) x Level of Education x Job Group*

2. Occupational Prestige at Age 35 (relative to expected prestige based on GAA and SES) x Level of Education x Job Group*

3. Job Satisfaction at age 35 x Level of Education x Job Group*

4. Career Establishment at age 35 x Level of Education x Job Group*

5. Utilization of Abilities (General Academic Aptitude in high school relative to that of others now in R's current occupation) x Job Group x Level of Education*

6. Job Satisfaction at age 35 x Current occupation x Career aspiration in high school*

7. Earnings at age 35 (relative to expected earnings based on GAA and SES) x Job Group x Experience in military service, Peace Corps, or VISTA programs

8. Earnings at age 35 (relative to expected earnings based on GAA and SES) x Job Group x Amount of Unemployment Experience

9. Ease of Career Change or Reentry (time required to find [new] job) x Level of Education x New Job Group*

10. Ease of Career Change or Reentry (need to acquire new skills) x Level of Education x New Job Group*

11. Job Satisfaction at age 35 x Work values at 35 x Work values in high school

Analyses of Other Outcomes of Education

12. Life Management Knowledge at age 35 x Level of Education x Family Situation*

13. Life Management Knowledge at age 35 x Level of Education x Perceived importance of such knowledge*

14. Type of Continuing Education Experience x Type of Program x Amount of Education

15. Importance of 15 aspects of Quality of Life (QoL) x Satisfaction with each QoL dimension x Level of Education*

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*Analyses performed separately by sex

Figure 5. Proposed analyses for report of results for year one.

16. Importance of 15 aspects of Quality of Life (QoL) x Satisfaction with each QoL dimension x continuing education experience*

Analyses Relating to Family Situations

17. Satisfaction with Relationship with Spouse x Importance of Relationship with Spouse to Quality of Life x Marital History*

18. Satisfaction with Relationship with Children x Importance of Relationship with Children to Quality of Life x Number of Children*

19. Satisfaction with Relationship with Children x Importance of Relationship with Children to Quality of Life x Age of Oldest Child*

20. Second thoughts about getting married x Importance of relationship with spouse to Quality of Life x Age at time of first marriage*

21. Second thoughts about having children x Importance of children to quality of life x Age at birth of first child*

22. Extent of Interaction with Family x Occupation x Living Situation*

23. Allocation of Domestic Responsibility x R's Work Status x Spouse's Work Status*

24. Sex-Role Attitude x Level of Education x Work Status/Spouse's Work Status*

Analyses Relating to Leisure and Civic Pursuits

25. Extent of Leisure Activity x Importance of Leisure to Quality of Life x Family/Living Situation

26. Extent of Leisure Activity x Importance of Leisure to Quality of Life x Occupation

27. Types of Leisure pursuits at 35 x types of leisure pursuits in high school

28. Extent of Civic or Volunteer Activity x Level of Education x Occupation

29. Extent of Civic or Volunteer Activity x Level of Education x Family Living Situation

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*Analyses performed separately by sex

Figure 5. Proposed analyses for report of results for year one (continued)

30. Extent of Civic/Volunteer Activities x Importance of Civic or Helping Activities to Quality of Life x Extent of Civic/Volunteer Activity in High School

Analyses Relating to Life Style, Personal Values, and Well-Being

31. Health Status at 35 x Health Risk Behaviors x Life style at 35

32. Current SES x SES in 1960 x Level of Education*

33. Current SES x SES in 1960 x Occupation*

34. Importance of 15 aspects of Quality of Life (QoL) x Satisfaction with each QoL dimension x Work status*

35. Importance of 15 aspects of Quality of Life (QoL) x Satisfaction with each QoL dimension x Family/Living Situation*

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*Analyses performed separately by sex

Figure 5. Proposed analyses for report of results for year one (continued)

set of related issues. Such shorter, specific reports are of particular use for dissemination to legislators and to state and federal agency officials, who are more likely to be interested in a subset of the issues addressed and who may lack the time necessary for studying a more comprehensive report of the survey results. It is currently planned that up to a dozen such reports, focusing on specific research issues, will be prepared to facilitate widespread dissemination.

Chapter 5
PLANS FOR PROTECTING INDIVIDUALS' PRIVACY

When maintaining and updating a data base such as the one for Project TALENT, it is imperative that the rights of the individuals providing the data be fully understood and guaranteed. This is important not only for complying with federal statutes regarding individuals' rights to privacy but also for maintaining high levels of confidence in and cooperation with Project TALENT on the part of the respondents. This latter factor assumes increasing importance as individuals in our society become more concerned about intrusions by governmental and other agencies into their personal affairs.

To this end, Project TALENT and the American Institutes for Research have instituted measures for guaranteeing that TALENT participants' rights to privacy are fully protected. The rights of individuals and the responsibilities of research agencies, as outlined by federal legislation, and the procedures developed by Project TALENT for safeguarding those rights are discussed in the sections below.

Legislation Pertaining to Individuals' Right to Privacy

Four major pieces of legislation have been passed in recent years that concern various aspects of the problem of protecting individuals' rights to privacy. These are:

1. The Freedom of Information Act as enacted in 1966 and amended in 1974 (P.L. 93-502);

2. The Family Educational Rights and Privacy Act of 1974 (the "Buckley Amendment") (P.L. 93-380);

3. The Privacy Act of 1974 (P.L. 93-579); and

4. The Protection of Human Subjects regulations authorized under the National Research Act of 1974 (P.L. 93-348).

Although all are important, only the latter two directly affect the maintenance of the TALENT data base.

The Freedom of Information Act provides for the release of information held by the federal government to the greatest extent possible. However, one of the nine categories of information that are exempt from the provisions of this act is "personnel and medical files and similar files the disclosure of which would constitute a clearly unwarranted invasion of personal privacy." Weinberger and Michael (1976) note that what constitutes a "clearly unwarranted invasion of privacy" is not defined in the law and that interpretation of that clause may need to come from the courts. Nevertheless, given the highly personal nature of the data already in the Project TALENT data base and of the data to be collected in the 17-year follow-up, there can be little doubt that release of such data would clearly violate the respondents' right to privacy, and thus would not be required under the provisions of the Freedom of Information Act.

The "Buckley Amendment" guarantees the privacy of students' educational records. Its provisions deal specifically with personally identifiable files, records, and data on pupils that are held by schools, and thus are not pertinent to the Project TALENT data base.

The remaining two pieces of legislation, on the other hand, are directly relevant to Project TALENT's data collection and data base management procedures and are discussed in some detail below.

Provisions of the Privacy Act of 1974

The Privacy Act of 1974 (Public Law 93-579) is a response to the possibility of threats to individuals' privacy, emanating from activities conducted or supported by the federal government. The Act prohibits an agency from disclosing information contained in personal records except under specific circumstances, provides for civil relief for individuals whose records are not kept properly, provides for criminal penalties for government employees who violate the Act, and grants to

individuals the right to access their records. Further, the Act provides that when a federal agency contracts with a private business for the operation of a system of records to accomplish an agency function, the contractor's employees are considered government employees and are subject to all the sanctions of the Act.

Despite the fact that the 17-year follow-up survey would be supported by a research grant rather than a contract, it seems likely that the data collected by Project TALENT constitute a "system of records" under the Privacy Act of 1974 and thus are subject to the provisions of that Act. The Act defines "record" as "any item, collection, or grouping of information about an individual that is maintained by an agency; including, but not limited to, his education, financial transactions,... or employment history and that contains his name, or the identifying number, symbol, or other identifying particular assigned to the individual." The Act uses the phrase "system of records" to define a group of records from which information can be retrieved by using an individual's name or other identifying particular.

Requirements regarding data collection. If the information that the agency is collecting could be used to adversely affect an individual, the agency must get the information directly from that person to the greatest practicable extent. In collecting the data, the agency must give the person interviewed the following facts:

a. the authority under which the agency is soliciting the information;

b. whether disclosure of the information is mandatory or voluntary;

c. the principal purposes for which the agency is planning to use the information; and

d. the routine uses that may be made of the information (i.e., disclosures outside the agency holding the records for purposes which are compatible with (c) above).

Responsibilities for data maintenance. An agency maintaining such records must adopt a number of rules for the conduct of its personnel and for governing access by individuals to their own data. As a minimum, each agency is required to:

a. "Establish rules of conduct for persons involved in the design, development, operation, or maintenance of any system of records." The agency must also acquaint each of these people with the Act's rules and requirements, the agency's rules and procedures, and the penalties for noncompliance.

b. "Establish appropriate administrative, technical, and physical safeguards to ensure the security and confidentiality of records."

c. Set up procedures under which individuals, upon request, can be notified if the record system contains a record about them.

d. Establish reasonable identification procedures and disclosure procedures for individuals who want to examine their records.

e. Establish procedures whereby individuals may request an amendment of a record pertaining to them.

Restrictions on disclosure of data in personal form. The Act precludes the release of information in personally identifiable form without the written consent of the individual to whom the record pertains. One exception to this regulation concerns requests submitted in accord with the Freedom of Information Act. However, as discussed above, the Project TALENT data base is considered to be exempt from the Freedom of Information Act requirement to release data to anyone upon receipt of a written request, and therefore this exception to the Privacy Act regulations does not apply to the TALENT data.

Provisions of the Protection of Human Subjects Regulations

The Protection of Human Subjects regulations were developed by DHEW to ensure that the rights of research participants were protected.

First introduced as DHEW policy in 1971 and later authorized by the National Research Act of 1974, the regulations stipulate that no grant or contract for an activity involving human subjects may be awarded unless the application for such support has been reviewed and approved by an appropriate institutional committee and the institution has submitted to HEW a certification of such review and approval.

The institutional review committee has four main tasks:

1. to determine whether participants will be placed at risk and, if risk is involved, whether the risk is justified in terms of the importance of the information to be gained;

2. to ensure that the rights and welfare of participants will be adequately protected;

3. to ensure that legally effective, informed consent will be obtained from the participants; and

4. to provide for the ongoing review of the research at timely intervals.

The Act defines a "subject at risk" as "any individual who may be exposed to the possibility of injury, including physical, psychological, or social injury, as a consequence of participation as a subject in any research, development, or related activity." Further, the definition of "informed consent" has been modified to stress the need for voluntary consent.

As was true with the Privacy Act, this Act focuses primarily on the mechanism for ensuring that individuals' rights to privacy are protected, rather than providing explicit ethical standards for determining what does and does not constitute an invasion of privacy. However, this Act is broader in its coverage, including grants as well as contracts and any research activity involving human subjects. Moreover, it goes even further than did the Privacy Act in placing the responsibility for

protecting participants' rights squarely on the shoulders of the agency carrying out the project.

Procedures to Be Followed to Protect Individuals' Privacy

AIR and Project TALENT have over the years developed and refined procedures for safeguarding the rights of participants in large-scale longitudinal surveys while ensuring that the objective of making the data available for secondary analysis by researchers in various disciplines throughout the country can also be met. These procedures can be grouped into three categories: those related to the collection of the data, the maintenance of the data base, and the release or disclosure of the data.

Procedures Relating to Data Collection

Review and approval of project plans and activities. AIR has filed with DHEW a statement of its policy and procedures with regard to reviewing projects to ensure that individuals' rights are safeguarded as outlined in the National Research Act of 1974. The plans for the collection and analysis of data for the Project TALENT 17-year follow-up, as presented in the request for continuation funds submitted to NIE on 18 July 1977, were reviewed and approved as submitted by AIR's Institutional Review Board for the Protection of Human Subjects. Subsequent to this review, when the questionnaire and privacy protection plans for year one of the survey were prepared, they were also submitted to and approved by the review board. Additional reviews of the project were recommended on an annual basis, to cover the development of the remaining survey instruments and the reporting of project results.

Informed consent procedures. As in prior TALENT surveys, a cover letter has been prepared to accompany the questionnaire. The letter is intended to answer any questions respondents may have regarding the nature and purpose of the survey and to assuage any doubts they may have regarding the confidentiality of the information they are providing. The following kinds of information are included in the cover letter:

1. the goals of the survey and the importance of the information the respondent is being asked to provide;

2. the routine uses that will be made of the data;

3. the authority under which the information is being requested;

4. an estimate of the amount of time that will be required of the respondent;

5. the voluntary nature of the respondent's participation; and

6. the procedures that have been instituted to ensure the confidentiality of their responses, including restrictions on disclosure of the results.

The participants are also told that by returning the questionnaire they are indicating their consent to participate in the survey. A copy of the letter that will accompany the year-one survey questionnaire is provided in Figure 6. In the case of telephone interviews, this same information is provided by the interviewers (members of the Project TALENT staff) when the interviewees are first reached by telephone. Individuals refusing to participate in the survey will be flagged on the Mailer/Status file and will not be recontacted.

In surveys such as the TALENT follow-ups, the cover letter is important for motivating the participants to respond as well as for informing them of their rights as a participant. For this reason, some mention is also made of the uses that have been made of prior results and considerable emphasis is placed on the value of the expected results of the current survey.

Procedures Relating to Maintaining the Data Base

Training of AIR staff. All AIR professional staff are routinely informed of the existing regulations regarding the protection of participants' privacy and of the implications of these efforts for our

September 1, 1977

Dear Project TALENT Participant:

In meeting the many problems facing our society today, increasing importance is being placed on our human resources--the combined talents of all men and women. Since 1960, Project TALENT has been studying how the talents of American youth are developed as they grow into adulthood. The Project TALENT staff are working to find out what educational, counseling, work, and other experiences have helped many of today's young adults to lead productive and happy lives and what barriers have prevented others from doing so.

You may remember the two days of tests and questionnaires you took in the spring of 1960 when you were in high school. You have probably also received follow-up questionnaires after you got out of high school. Now, with the support of the National Institute of Education, we are trying to find out more about the problems confronting you as an adult, in your mid-30s. The information that you can provide by filling out this questionnaire will be extremely valuable in designing ways to reduce the problems and increase the successes of those in your generation and those in generations to follow.

One concern that has been mentioned is that the government and others are prying too much into our personal lives. Some individuals have expressed concern that the information they give to Project TALENT might be used improperly. Please be assured that your responses will be absolutely confidential. As soon as we receive your questionnaire, your name and other identifying information will be removed. The original questionnaires are kept under lock and key and access to the computer tapes that contain only a coded identification number is restricted. Information on particular individuals is never released to the government, employers, or anyone else.

Your continued participation in Project TALENT is, of course, entirely voluntary. Likewise, if for some reason you would rather not answer a particular question or group of questions on the questionnaire, you may skip them. We hope, however, that you will continue to participate in Project TALENT by answering the questions on the enclosed questionnaire and returning it to us as soon as possible. The questionnaire should take no more than an hour to fill out, and probably less, and the information you will be providing is very important to us. Most of the questions can be answered simply by filling in a circle with a soft lead pencil. Detailed instructions for filling out the questionnaire are given on the questionnaire itself.

Please fill out the questionnaire and mail it today in the return envelope provided. No stamp is needed. Thank you very much for your cooperation.

Sincerely yours,

Lauress L. Wise
Deputy Director, Project TALENT

Lauri Steel
Co-Director, TALENT 17-Year Follow-Up

Figure 6. Letter to accompany 17-year follow-up questionnaire

research activities. In addition, all Project TALENT staff have been informed of the provisions of the relevant legislation, as outlined earlier in this chapter, and of their implications for Project TALENT activities.

Ensuring the confidentiality of the data. In 1975, the Committee on Federal Agency Evaluation Research, under the National Research Council, released a report entitled "Protecting Individual Privacy in Evaluation Research." They concluded that there are two major risks to a researcher's ability to maintain the confidentiality of a system of records: (1) that someone will get hold of records containing identifying information and will use the contents of the records to injure the identified individuals or for personal benefit; and (2) that even if identifying information were removed from the records, someone will be able to establish the identity of the records from the information contained in them. Because modern evaluation research often involves a large quantity of data and a large number of people, the risk of misuse is significant, and rules for handling information need to be carefully formulated and strictly enforced.

AIR's objectives in preserving the confidentiality of the TALENT data are to keep to an absolute minimum the number of people who have access to identified records and to the complete data set from which identities could be derived, and to make sure that these people are fully committed to honoring the pledge of confidentiality and subject to severe penalties if they do not. In accord with these objectives, the following procedures have been developed to ensure the confidentiality of the Project TALENT 17-year follow-up data and other data files.

1. The primary identifying information on each participant, his/her name and address, will continue to be maintained only on the Mailer File, apart from any of the other information supplied by the respondent. Only the Deputy Project Director and the senior data processing staff member will have access to this file. In order to protect the anonymity of the schools participating in 1960 and to ensure that no former

student could be identified from the reported data, the link between school name and school ID number will also be considered to be confidential.

2. Information used to verify the identity of each respondent (name and address) will be removed from each questionnaire as it is logged in upon receipt from the participant. Only the participant's 1960 testing number and birthdate will be used to identify particular respondents for purposes of linking the survey responses with prior information.

3. The senior research staff, the senior data processing staff, and those few other individuals who will have access to data identified by name (i.e., the telephone interviewers) or to the complete data set will be asked to sign a statement acknowledging that they have been made aware of the Project TALENT policies regarding confidentiality and the provisions in the federal laws relating to privacy, and that they understand their responsibilities in this respect. A copy of such a statement is presented in Figure 7.

4. In accordance with the Privacy Act, disclosure of the complete data set within the agency (AIR) is made only "to the officers and employees of the agency which maintains the record who have a need for the record in the performance of their duties." Thus, direct access to the complete TALENT data set is limited to those data processing personnel who need to access the entire data set to make counts, prepare worktapes, and carry out similar tasks.

5. To maintain the security of the data files themselves, the keywords by which the TALENT data processing accounts are accessed are changed periodically, and the computer facility where the tapes are stored is instructed not to release the TALENT tapes to other than Project TALENT accounts. The one copy of the tapes containing the complete data set which is

SAFEGUARDS CERTIFICATION

I have reviewed the provisions of (1) the Privacy Act, (2) the Freedom of Information Act, (3) the Family Educational Right and Privacy Act (the "Buckley Amendment"), and (4) the National Research Act (regulations on safeguarding the rights of Human Subjects) as they pertain to Project TALENT data collection and data base maintenance activities, and I will endeavor to see that TALENT participants' rights as outlined in those pieces of legislation are fully recognized and protected in all Project TALENT activities.

_____ _____

Date Name

_____

Title

Figure 7. Safeguards certification to be signed by project staff.

maintained on AIR premises is stored in a locked room, with the key kept by the Deputy Project Director.

Procedures for Release or Disclosure of Data

Release of data for analytic purposes. The Project TALENT staff takes the responsibility of maintaining the privacy of individuals very seriously. On the other hand, the staff is committed to the proposition that Project TALENT represents a major national data resource. The staff assignment therefore becomes one of encouraging the use of the data by researchers to add to our understanding of the processes contributing to the development and utilization of human talents while simultaneously protecting the privacy of all individuals in the sample.

To carry out these dual responsibilities, AIR maintains control of the computer tapes containing the complete Project TALENT data set but makes the data available to researchers throughout the country through the Project TALENT Data Bank. Depending on the nature of the study for which a researcher requests the use of TALENT data, the Data Bank will make available either summary statistics for the variables of concern, worktapes of individual records containing the desired variables, or "public use" tapes containing complete data for 1,000 selfweighted cases for each of the four 1960 grade cohorts drawn from the 11-year follow-up files.

All requests for data from individuals' records are carefully examined to ensure that TALENT participants can in no way be identified from the data provided, and Data Bank customers are further informed of the need to protect the confidentiality of the data and the resultant implications for the release of TALENT data. Data Bank customers are also required to sign a contract in which they agree to certain conditions regarding protection of the confidentiality of the data and release of the data. An excerpt of this Data Bank contract showing the relevant provisions is presented in Figure 8.

When worktapes are prepared for use by either AIR staff or outside researchers, they do not contain any information that could be used to

Conditions: The contractor agrees:

1. to bear full responsibility for preventing identification of individual participants or schools (a similar institutional guarantee is also required when appropriate);

2. to notify the Project TALENT Data Bank of the use of their worktape by any other individual, including (a) the person's name and affiliation, and (b) a copy of an agreement signed by that person to abide by the conditions under which the worktape was originally provided;

3. to acknowledge Project TALENT, the American Institutes for Research, and the National Institute of Education, in publications resulting from use of the data, including a reference for further information to:

   Wise, L. L., McLaughlin, D. H., & Steel, L. M. The Project TALENT Data Bank Handbook. Palo Alto, Calif.: American Institutes for Research, 1977;

4. to submit to Project TALENT a copy of each report resulting from their use of the data.

AMERICAN INSTITUTES FOR RESEARCH

By:_____ _____
Signature Date

Title:

(NAME OF USER'S INSTITUTION)

By:_____ _____
Authorized Signature Date

Title:

Executed copies to: _____ Data Bank Director
_____ Buyer
_____ Management Systems Office

Figure 8. Conditions specified for Data Bank users

identify small subgroups from which the identity of individuals could be surmised. In particular, the names of the 1960 school, of any colleges attended, of the current city of residence, and even of the state of residence will be used only as a link to supplemental information on characteristics of schools attended or of the home community. Such links are not released for research use.

Finally, all data analyses and presentations of results deal exclusively with aggregated data. No information is revealed concerning individual schools or small groups of respondents, let alone any individual respondents. It is thus impossible to identify information about any particular respondent or to learn the identity of any respondent from the tabular presentations of results.

Disclosure of data to individual participants. Procedures have also been established to provide the participants reasonable access to data on themselves in the TALENT files, as required under the Privacy Act. Upon written request and presentation of appropriate identifying information (e.g., name, date of birth, high school and grade in 1960), participants are supplied information on their 1960 test scores. Other information, in particular responses to follow-up survey questions made by the participants themselves, has never been requested. This information is maintained on tape in a highly codified form and, in order to preserve the confidentiality of the data, it is intentionally difficult to obtain and interpret even if the identifying code is known. While it is not anticipated that access to this information will ever be requested by the participant, such access would be granted to a participant at cost after verification of the requestor's identity.

Participants have been informed of their right to obtain copies of their records through notices in the Project TALENT News, a bulletin mailed annually to Project TALENT participants as a means of obtaining new addresses. The notice explains what data are available (primarily the 1960 test scores, as the follow-up data exists only in coded form on computer tape) and the procedures whereby these records may be obtained.

Chapter 6

ADDRESS MAINTENANCE

A major concern in conducting a longitudinal study such as Project TALENT is the maintenance of up-to-date addresses for the members of the sample. Until recently, TALENT has routinely mailed an annual locator letter (the Project TALENT News) to all members of the original 1960 sample. Because the post office maintains forwarding addresses for up to a year and would, for a nominal charge, return either the letter or the questionnaire to us with the new address, it was possible to regularly update the address files in a cost-efficient way. The address files were also updated several times in conjunction with the follow-up surveys of each grade cohort.

However, a change in the postal rates in late 1976 nearly doubled the cost of having questionnaires and locator letters returned with new addresses. This necessitated a change in Project TALENT's approach to address maintenance. In prior years, when new addresses were received they were recorded on the mailer file. In the case of "dead-end" locator letters or questionnaires, for which the post office reported no forwarding address, it cost less to continue sending materials to the last known address than it would have to process these "dead-end" cases, flagging each of them to be deleted from future mailings. It was also found that these "dead-end" addresses were not always obsolete and that a subsequent mailing to the same address would occasionally reach the appropriate participant. In early 1977, however, due to the increased costs of mailing, a decision was made to process all of the "dead-end" returns to the 1976 locator letter, as well as letters returned with new addresses before mailing out a 1977 locator letter. Thus, all new addresses sent in either by the post office or by the participants themselves, and all dead-end returns, were reviewed and the relevant data were keytaped for updating the mailer file records. In all, approximately 18,000 address changes, 850 name changes, and 62,600 obsolete address indicators were processed.

Some changes were also made in the procedures to be used to generate information regarding current addresses for TALENT participants. As described in Chapter 3 of this report, the 17-year follow-up survey will not attempt to reach all 400,000 of the original TALENT participants. Rather, samples of approximately 32,000 will be drawn for each of the four grade cohorts for inclusion in this survey. In order to minimize the costs associated with address maintenance for the four and one-half years of the 17-year follow-up, it was decided to send the locator letter only to those selected for participation in the survey. The mailing is now tentatively planned for November 1977, in order that the locator letters not be lost in the Christmas mail flurry and that they be received prior to the mailing of the questionnaires themselves, now tentatively planned for January 1978.

The format of the locator letter was also modified somewhat from prior years, again in response to the increases in postal rates. A single-sheet, triple-fold Project TALENT Newsletter was developed for mailing to all participants in the sample (including those who will receive questionnaires). In addition to requesting current address information, the Newsletter reports on recent developments with Project TALENT and highlights some of the ways the data from prior surveys have been used. TALENT participants have in the past expressed interest in learning what is done with the data they provide, and it is expected that the Newsletter will have some motivating effect, encouraging participants to continue responding to the questionnaires, in addition to its value for eliciting information on current addresses.

Chapter 7

ELEVEN-YEAR FOLLOW-UP RESPONSE DISTRIBUTIONS

In June 1975, the response distributions for the 11-year follow-up survey of the Project TALENT 12th and 11th grade cohorts were published in The American Citizen: 11 Years after High School (Wilson and Wise, 1975). This publication proved to be an extremely valuable and popular resource. Not only did it present basic findings from the 11-year survey in a format that was easily understandable to "nonresearchers," it also contained sufficient detail to allow researchers to assess the potential of the data for their own research efforts. The American Citizen also provided the basis for important secondary dissemination of TALENT findings in the public forum beginning with an article in the New York Times (August 27, 1975, page 28) and continuing through a recent speech by Congressman Brademas ("A Lifetime of Learning," presented in North Liberty, Indiana, June 5, 1977).

During the past year, a companion volume to The American Citizen was published which contains the 11-year follow-up response distributions for surveys of the 10th and 9th grade cohorts. This report, The American Citizen, Volume II (Wise, McLaughlin, and Gilmartin, 1977), provides information on the educational, career, and personal and family experiences of these individuals, and includes their opinions of the value of these experiences in relation to their present activities and plans. As was true for the 11th and 12th grade cohorts, almost half of these individuals, most of whom have high school diplomas, did not consider their high school experiences to have been "valuable" or even "fairly useful" to them in their subsequent education or occupations. Interestingly, their projections in 1960 of the value of their high school education for their later life had been about the same as these later judgments. A second important finding was that nearly one-fourth of these men and women at age 29 still planned to obtain further educational degrees. These and other highlights of the data are discussed in the report.

For the 9th grade cohort, the report includes information on the average high school academic aptitude scores of those participants choosing each response option for each question. For the 10th grade cohort, information on the average socioeconomic status (SES) level in 1960 of the respondents' parents is similarly presented.* Copies of the follow-up questionnaires and a brief summary of the data collection techniques and the statistical procedures used to obtain nationally representative results are also included.

The clerical effort required to produce the new report was greatly reduced in comparison to the preparation of Volume I as a result of more extensive computer programming and the use of new online data tape formats. The tables, including nearly all of the text, were organized and printed by computer, eliminating the time-consuming and costly manual typing process and also eliminating the concomitant potential for clerical errors. A secondary report containing raw counts and the means and variances of both SES and academic aptitude (and in many cases the achievement orientation composite) was also produced by the system of programs that prepared the tables. This secondary report was used in preparing the discussion that accompanies the tables in The American Citizen, Volume II and is now maintained as a reference for potential users of the data base.

A complete copy of The American Citizen: 11 Years after High School, Volume II accompanies this report.

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*The original plan called for analysis of a new composite of 1960 variables measuring achievement orientation rather than repeating the academic aptitude measure that was reported with the 11th grade responses. An achievement composite was developed based on variables such as high school grades, expected level of education, prestige of planned career, and expected income, all controlling for SES and academic aptitude. However, preliminary analyses showed a somewhat narrower range of relationship to the outcome variables than was found for academic aptitude. The inclusion of academic aptitude also provides a useful "crossvalidation" of the relationships found for the 11th grade cohort.

Chapter 8
THE SURVEY OF DATA USERS

An important objective in the development of the Project TALENT data base has been to foster the use of the data by other researchers for secondary analysis. Secondary analysis of large data bases such as the Project TALENT data base provides an inexpensive alternative to new data collection efforts, and thus a relatively cost-efficient means of obtaining answers to basic and policy-related research questions. Secondary analysis can also be used effectively in shaping new data collection efforts through preliminary tests of relevant hypotheses. Koehler (1977), for one, has outlined several important uses of (as well as problems with) secondary analyses.

While Project TALENT data have been and continue to be used for secondary analysis by researchers in various disciplines throughout the country, the population of potential users clearly exceeds the number of individuals who have utilized the data base. In order to assess the potential user population for Project TALENT data and to identify barriers to usage of the data for secondary analysis, a small telephone survey of leading large-scale survey researchers was undertaken. Because of the dearth of relevant findings, the survey was designed to shed light on barriers to secondary use of large data bases in general as well as on barriers to use of TALENT data. The survey was also designed to elicit suggestions for strategies for reducing barriers to use of the data.

Four levels of barrier were considered: unawareness of the existence of the data base, negative attitudes about secondary analysis, specific difficulties or deficiencies of the data base, and cost of data processing. In the case of Project TALENT, most researchers were aware of its existence, but few had a clear idea of the scope of information contained in the data base. Half of the respondents expressed some form of negative feeling about secondary analysis in general, and a folklore myth that the TALENT data are severely biased was also uncovered. When

the data base was described to the respondents, most felt that useful data were present and many expressed interest in future use of the data. For established researchers, costs at the level required for use of Project TALENT data were not perceived as a barrier, although they might be for beginning researchers.

Recommendations obtained from the respondents for improving usage generally matched the steps recently taken by the TALENT staff (see Chapter 9 of this report), although some areas were identified where additional effort was needed (e.g., publishing more articles based on Project TALENT). Finally, continuation of activities developed in this survey is desirable both to refine our knowledge about secondary data usage patterns and, as a side effect, to heighten interest in secondary analysis.

A report of the results of the survey of data users accompanies this report.

Chapter 9
DATA ACCESS IMPROVEMENTS

A number of the concerns expressed by respondents to the data user survey (see Chapter 8) were already being addressed by activities carried out this past year. Designed to improve the accessibility of the data, these activities include: (1) the creation of 11-year follow-up public use files, (2) improvements to the tape format documentation, (3) assembling and documenting additional data on the TALENT schools and testing groups within schools, and (4) Data Bank management activities.

The Creation of Public Use Files

A problem associated with very large data bases such as the Project TALENT data base is the high cost of sifting through an immense amount of data to extract the data relevant to a particular analysis. For Project TALENT data, the common statistical packages (most noticeably the Statistical Package for the Social Sciences) do not cope well with the large number of cases or the need for weighted analyses, so that significant programming costs must also be added to the high machine costs of just passing through the data. While the costs of accessing the TALENT data base are only a small fraction of the cost of collecting comparable data and for large-scale, comprehensive studies are not disproportionate to the results generated, there are a number of instances where the cost of important analyses <u>can</u> be prohibitive. In particular, graduate students without external support for their work or researchers who want to perform pilot analyses in preparing requests for research support need a low-cost means of accessing the data base.

In response to this need, 1,000-case files, drawn from respondents to the 11-year follow-up, were created for each of the four 1960 grade cohorts. These 11-year survey "public use" files were designed to be self-weighting; that is, every TALENT 1960 high school student in the country had a known <u>and</u> <u>equal</u> chance of being included as one of the 1,000 cases taken from his/her grade cohort. This means that nationally

representative estimates can be reproduced without special case weighting, thus greatly simplifying analyses of the data and eliminating the potentially significant errors that result from failure to use appropriate case weights.

The 11-year "public use" samples were drawn systematically with respect to student test numbers and hence with respect to schools and larger geographic regions. In this way, nearly all of the increase in sampling error due to the clustering by school has been reversed in drawing the 1,000-case samples. The actual procedure used was to set a threshold value for each grade equal to the sum of all the 11-year follow-up weights for each cohort divided by 1,000 (see The Project TALENT Data Bank Handbook for a further description of the weights) and then set a counter to a random value between zero and the threshold. The cases were then passed in test number order, incrementing the counter by the 11-year follow-up weight of each case. Whenever the counter passed an exact multiple of the threshold value, the corresponding case was selected for the public use sample.

The public use files were used extensively in preliminary runs of the computer programs that generated the tables for the 10th and 9th grade 11-year response distributions and, within the limits of sampling error, the results were found to agree with the results based on all of the roughly 24,000 11-year respondents for each grade cohort. The public use files can also be used for inexpensive analyses of 1960 data and of relationships between 1960 measures and follow-up measures. Table 7 compares estimates of the mean value for two key 1960 variables based on the public use samples to similar estimates based on (1) all 11-year respondents, appropriately weighted, and (2) a simple ten percent sample of all 1960 participants.

It should be noted, however, that the public use data sets cannot generally replace the larger data sets. The sampling error in the smaller files is much greater than in the larger files and, particularly for studies of subsets of the whole population, the smaller files do not provide the level of accuracy that is normally required.

Table 7

A Comparison of Estimates of Population Means Based on the Public-Use Samples to Estimates Based on the Entire 11-Year Follow-up File and on a Direct Sample of all 1960 Cases

	General Academic Aptitude (Means)				Socioeconomic Status (Means)			
	11th Grade Cohort		9th Grade Cohort		11th Grade Cohort		9th Grade Cohort	
	Males	Females	Males	Females	Males	Females	Males	Females
10% Sample of All 1960 Cases (Using 1960 Weight A)	509.2 ± 4.5*	509.8 ± 4.2	430.2 ± 4.0	453.6 ± 3.7	98.2 ±0.4	97.9 ±0.4	96.5 ±0.4	96.5 ±0.4
All 11-Year Follow-up Cases (Using Follow-up Weights)	509.8 ± 5.3	513.3 ± 5.5	432.3 ± 5.3	454.9 ± 4.9	98.5 ±0.5	97.9 ±0.5	96.9 ±0.5	96.4 ±0.5
1000 Case Public Use Sample (Unweighted)	505.0 ± 12.6	512.4 ± 10.1	442.2 ± 10.7	456.9 ± 10.3	98.6 ±0.9	98.2 ±0.9	97.0 ±1.0	96.0 ±0.9

*For each estimate the approximate bounds of the 95% confidence interval are also shown.

Tape Format Documentation Improvement

In producing the 10th and 9th grade 11-year follow-up response tables, a number of revisions were made to the data tape documentation to improve the clarity of the variable descriptions and to correct any inaccuracies uncovered in the analyses. The revised documentation together with more extensive documentation of the occupation codes used in Project TALENT has been packaged for more widespread dissemination in conjunction with the public use tapes. A copy of this revised master-file tape format documentation accompanies this report.

School Level Data

During 1976, important data on each school in the 1960 probability sample and on each testing group within each school (generally a classroom) was keytaped for use in editing the student data records. Under the current grant, these data were merged with other school data and documented for permanent storage. This file contains data not elsewhere preserved that can be essential to certain methodological studies.

At the school level, these data include the variables used to place the school in a particular cell in the original sampling design, the resultant weights, and data on the ethnic composition of each school's student body. The last is particularly important as Project TALENT was not permitted to ascertain the race of each participant in 1960.

At the test group level these data include counts of the number present and absent at each of the four testing sessions, timings for each test, the method of timing the tests, counts of the number tested by grade, and flags denoting irregularities in the testing. These data serve to document the corrections made to the student records based on the mistimings of tests and irregularities noted. They are also valuable for studies of the effects of variations in test time or for studies of absentee rates.

The school and test group data assembled this past year supplement the school questionnaire responses that were put onto tape previously. Additional refinements to the school level data will be made as they are needed for particular studies.

Data Bank Management Activities

A number of activities are essential to the management of the Project TALENT Data Bank. These include responding to inquiries, monitoring ongoing projects, collecting reports resulting from Data Bank studies, and maintaining files of computer analyses. While essentially routine, these activities allow us to serve as a reference library for potential data users. By maintaining detailed documentation of prior analyses and reports, we can avoid costly duplications of effort.

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ATTACHMENT 1

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PRIMARY SURVEY RESEARCH ISSUES

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ATTACHMENT 2

REPORT ON PROJECT TALENT
ADVISORY PANEL REVIEW

Attachment 2

REPORT ON PROJECT TALENT ADVISORY PANEL REVIEW

The primary value of Project TALENT lies in its utility to the research community. To insure that the data collected in the 17-year follow-up survey will have maximum value for researchers throughout the United States, an interdisciplinary panel of advisors was selected and invited to participate in the planning for the survey. The following criteria were considered in choosing panel members.

1. Panel members should bring a variety of social science perspectives to bear on the issues (e.g., sociology, psychology, economics, education).

2. They should be experienced in the design of longitudinal studies and in the analysis and use of longitudinal data.

3. They should be familiar with current policy issues.

4. They should, together, have expertise in the five areas proposed for investigation (i.e., career development, lifelong learning, family roles, leisure and civic pursuits, and values and life style).

The following individuals were selected to serve as advisors to the project.

Ronald Abeles
Social Psychologist
Social Science Research Council
Research Specialty: Social Processes

Paul Barton
Senior Consultant
National Manpower Institute
Research Specialty: Education and School-Work Transition

Orville G. Brim, President
Foundation for Child Development
Research Specialty: Sociology and Adult Development

Glen Elder
Professor of Sociology
University of North Carolina
On leave at Boystown Center for the Study of Youth Development
Research Specialty: Life-Span Development

David Featherman
Professor of Sociology
University of Wisconsin
Research Specialty: Educational and Career Attainment Processes

John Flanagan
Chairman of the Board
American Institutes for Research
Research Specialty: Individual Development and Quality of Life

Hilda Kahne, Economist
Radcliffe Institute
Research Specialty: Women's Career Development

Herbert Parnes
Professor of Economics
The Ohio State University
Research Specialty: Occupational Development and Achievement

In addition, the following three senior AIR staff members with expertise in areas of interest to the survey were consulted:

Richard Rowe, Vice President
American Institutes for Research
Research Specialty: Families and Children

Paul Schwarz, President
American Institutes for Research
Research Specialty: Social Impact

Harold Sheppard, Principal Research Scientist
American Institutes for Research
Research Specialty: Mid-Life Career Development

Each member of the panel was asked to review the general framework and the specific research issues and questions proposed for the survey, and to comment on (1) the appropriateness and/or usefulness of the issues proposed, (2) additional issues relating to policy concerns or to individuals' development that should be investigated, (3) the relative importance of the various issues, and (4) the implications for the survey methodology. Six of the eight panel members met with project staff on April 5, 1977 in New York City to discuss their comments and suggestions regarding the survey plans. Two members who were unable to attend the meeting submitted their comments by mail following the meeting.

This document summarizes the comments and recommendations made by all of the panel members and by AIR staff consultants. The initial sections present general suggestions and recommendations, while the latter sections give comments elaborating on or adding to the research issues and questions presented in the survey plans. No attempt has been made here to evaluate these recommendations or to determine what modifications should be made in the survey plans to reflect this input. These issues will be addressed in a separate, later report.

General Reactions

There was general agreement among the panel members that TALENT is indeed a valuable resource to the research community, and that additional data obtained from the participants during their mid-30s would considerably enrich the data base. The objectives and research issues proposed for the

17-year survey received enthusiastic support. The following comments reflect the highly positive attitude of the panel members toward this survey.

1. "Let me begin by expressing my admiration for the imaginative and comprehensive research agenda you have developed for the 17-year follow-up survey. The five research areas that you specify cover the major types of issues that can be addressed with the longitudinal data for this age group. I also like your specification of research objectives." (Herb Parnes)

2. "This is really an impressive array of data possibilities. It's almost mind-boggling. I was impressed by the extent to which all of this seems to be right up front and on top of general policy issues." (Paul Barton)

3. "A couple of weeks ago I was listening to Angus Campbell talk about the 'Quality of Life' book, and he mentioned something that I found quite startling, namely that the period of greatest stress for individuals or for families was the period in which the children were the youngest--not the 'empty nest' and not the various other life cycles. Therefore, I find this period of the ages 30 to 35 one of the critical ones to find out what is going on in their lives. If we are going to preserve the family, maybe here's the kernel of where we can find something." (Hilda Kahne)

4. "The developmental design that you have here seems just ideal for looking at the middle-life transition problem.... This could make quite a substantial contribution to the area. It's a cohort caught between two generations--you are dealing with aged parents on the one hand and the launching of children on the other. It would have, I think, very impressive credentials." (Glen Elder)

5. "The psychological approach talks of the antecedents, correlates and consequences of personal behavior; economic research is talking about the labor market, its functions, how it distributes people among occupations and rewards them in terms of their earnings, what the conditions of work are like, what work structures are like; the political area is concerned with legislation and courts; but they are all dealing with the same people. Longitudinal analysis is a way of bringing those disciplines together. I find what you are doing very exciting, because you are talking about how to gather data so that economists and social scientists can both work on it." (Hilda Kahne)

6. "Here you have a unique opportunity, and you've not asked any of us to hold back in our imagination as to what could be covered. In the areas you have laid out, the objectives are very straightforward and make sense. My feeling is, in balance, you haven't left much out--some, maybe, but not much." (Orville Brim)

7. "In closing let me say that I am enormously pleased that AIR has received funding for the 17-year follow-up. I think, as I have stated several times above, that the TALENT staff has an opportunity to make major contributions to the understanding of how the life cycle is organized and toward a greater appreciation for the demographic and social psychology of the process of becoming an adult." (Dave Featherman)

The panel members felt the original design of the survey and the nature of the samples gave the TALENT data base several special advantages in addition to the sheer size of the sample.

1. The TALENT samples are historically important cohorts in that they have experienced numerous important social conditions and events, such as the civil rights movement, the Vietnam war and the student unrest during the 60s, the women's liberation movement. These people were also in high school in the late 50s and early 60s, when the new math and science programs were being implemented, and their graduation from high school coincided with the onset of rapid growth in community colleges across the country.

2. The TALENT subsamples provide additional advantages. The Knoxville sample represents a "gold mine" to sociologists and other researchers interested in placing individuals within contexts, in that it includes all the students who were in grades 8-12 in Knox County, Tennessee in 1960. The "15-year-old" sample is a representative sample of a complete age group. And, finally, the "retest" sample provides data on the cognitive skills in 12th grade for a portion of the cohort first tested in 9th grade.

3. Because of the size of the sample, it is possible to conduct analyses using the sample as its own control, comparing those at the extremes of the distribution of concern to those at the mean.

4. The availability of data at multiple testing points allows studies in which the individual is the unit of analysis, and the impact of salient elements of the individual's life situation (which could be lost in straightforward correlational analyses) can be examined.

A follow-up survey of these individuals at approximately age 35 would provide invaluable data for studying the transition from youth to full adulthood. There is currently little empirical information on the events contributing to this transition for large and representative samples of individuals born during or after World War II. TALENT thus has a unique opportunity to fill an important gap in the research literature.

The period of age 30-35, moreover, is critical for studying the processes of establishment of a career, the development of the family, and the mid-life transition. At this stage, the cohort is "caught between two generations, with the aged on one hand and children on the other." Thus, individuals in

their mid-30s will need to deal with new demands and responsibilities, and it is important to know how and how well they have been prepared to deal with those responsibilities.

There was general and enthusiastic support for the life-span emphasis proposed for the survey. In considering the various issues that could be investigated in such a survey, the panel agreed that the new survey should emphasize those issues and research questions that best capitalized on the longitudinal data available. The need to build ties to other ongoing and important national studies was also stressed, along with the caution of not devoting excessive time and effort to issues already well studied by others at the expense of investigating issues that TALENT is more uniquely qualified to explore.

Current Social Trends and Issues

To give perspective to the consideration of issues to explore in the 17-year follow-up survey, as well as to assist in determining priorities among issues, the following social trends and issues of current concern were discussed.

1. Lifelong learning as a growing phenomenon, with opportunities expanding rapidly.

2. Changes in the work-life span, resulting from earlier retirement for some and also elimination of mandatory retirement policies for others.

3. Rising divorce rate and the higher incidence of remarriage.

4. Radical changes in the meaning of (and attitudes toward) children and parenthood.

5. Changes in the typical family style and the growth of two-career families; families with the man as the sole wage-earner are no longer the majority, nor are the typical American family with a husband, wife, and two children.

6. Growth of concern about the environment, pollution, and congestion.

7. Changes in life styles and living standards as a result of shortages of energy and other resources.

8. Growth of concern about equal rights for minorities and women.

9. A revolution in women's roles and sex roles; a move toward greater androgyny; women's liberation.

10. A redistribution of education, work, and leisure during the life span; increased pressure on middle-aged workers from younger workers entering the labor market and from older workers not wanting to retire.

11. A higher value being placed on education and, at the same time, a greater probability of not being able to use it in one's work; possible changes in the role of education.

12. Concern with shaping of the work environment and job enrichment; greater provision for work incentives.

13. Growing interrelationships between education and work.

14. Consideration of a national youth service program as a possible solution (or contributing factor to such a solution) to youth unemployment problems.

General Recommendations

The interactions between individuals' various roles were viewed as a crucial concern in understanding their development and achievement in their life roles. In particular, adults' work and family roles are becoming increasingly interrelated and it is important to examine the impact of each on the other. Other life roles (e.g., education, leisure, civic) "dovetail" into these two primary roles. Two issues to investigate are:

1. How is a person's life anchored relative to different areas (e.g., work, family, recreation, community, church)? Consider both an individual's relative standings in terms of resource allocations to and demands of various areas, and the relative significance of different areas as valued aspects of the person's life. How do such patterns unfold or develop over the individual's life course?

2. To what extent is there coordination, facilitation, or interference between different areas of individuals' life activity? How do individuals' multiple role relationships (e.g., parent, spouse, employee) collectively impact on their sense of self and well being?

Many other important issues were recommended which also cut across specific role areas, and cannot be viewed adequately within the context of a single area.

1. To what extent is there carryover from the school "phase" of an individual's life to later phases (e.g., in achievement, in motivation)? To what extent do experiences during the second half of life (e.g., career experiences, family experiences) serve to counteract or turn around early disadvantages or their effects?

2. What are the sources of change in the course of an individual's life? What major events radically alter an individual's life course (e.g., illness)? What institutionalized experiences (e.g., military service) have special developmental potential?

3. What social networks are individuals involved in? Whom do they interact with on a day-to-day basis? To whom do they turn in time of trouble? Who are the significant others in their lives?

4. How have these individuals developed psychologically? How have their cognitive abilities changed? How have their attitudes to self and others developed?

A critical need was perceived in the research community for improved measures of individual attainment and well-being, both overall and in relation to specific areas. Suggested measures include:

1. Individuals' perceived attainment relative to schedule (i.e., are they where they thought they would be?).

2. Regrets and second thoughts, changes planned, frustrations.

3. Subjective measures of satisfactions, expectations, commitment.

4. Life review--a retrospective view of especially good and bad parts of one's life. With the longitudinal data, it will be possible to compare retrospective evaluations with earlier statements.

Other recommendations were as follows.

1. Individuals' resource and consumption patterns are a particularly useful set of data. Resource allocations should be examined in relation to individuals' aspirations, role demands, and life management constraints, and to the significance attached to these allocations. Resources examined should include time, energy, and money.

2. An individual's life-status is a critical variable in examining the relationships between specific life events and outcomes, as the impact of a given event (e.g., early childbearing) may vary greatly for a career-oriented professional woman and a homemaker. Some index of an individual's life status, or total life situation, should be included.

3. The timing and sequencing of events in the transition from youth to adulthood is important--e.g., women's working in relation to family events, military experience in relation to education and work life. Data on timing are "really necessary to relate these people to history and to do justice to the complexity of their lives." Major differences occur in the timing and sequencing of events in men's and women's lives; it is necessary to examine this factor in studying their opportunities and achievement.

Additional Information Topics to Consider

1. Data on lifestyle variables:
   the kind of dwelling people live in
   the kind of car they drive
   their insurance
   consumer behavior
   residential changes and migration

2. Health-related information:
   health status
   types of health services used in case of illness
   handicapping conditions
   dietary patterns
   stress
   hospitalization, or days off work

3. Data on amenities provided by employer--e.g., credit union. A related issue is the extent to which one's work situation--a major consumer of individual resources--facilitates or hinders the carrying out of various (necessary) life management functions.

4. Retrospective life history data for the period since grade 12, covering such topical domains as education, occupation, marital history, fertility, and residential.

5. Data on the economic conditions and labor market of (selected) communities in which respondents live.

6. Include data on altruistic behavior as distinct from leisure and civic pursuits.

7. Include life management as an outcome.

Suggestions Relating to the Development of Work Roles

Much of the discussion focused on the need for improved measures of career attainment. There was general agreement that job status and earnings, alone, were inadequate as indicators of work-life accomplishment, and that additional objective and subjective measures were needed. It was felt that the development of good career outcome measures (subjective or objective) would be a contribution to the research community. Other recommendations and comments relating to this issue were as follows.

1. Include data on the day-to-day conduct of the job--for example, extent of responsibility, degrees of freedom for self-direction (autonomy), job authority, feelings of stress from conflicting role femands, and feelings of pride and satisfaction. (References: work by Mel Kohn at NIMH, Robert Kahn at ISR, and Jaylin Mortimer at University of Minnesota)

2. Look at work-life from a process perspective, and consider downward progress as well as upward.

3. Look at growth within an occupation as well as across occupations or career groups.

Several additional research issues and questions were proposed for investigation, many covering the interrelations between various life roles, others extending the lines of investigation already proposed.

1. With the increase in dual-career families, how do individuals synchronize their interdependent career lines, or life paths? What adjustments are required? What limitations are imposed?

2. In examining career changes, look at changes within an occupation or career group, including changes of employer and change of industry. (Reference: article on "Career, Labor Market, and Socio-economic Achievement" by Seymour Spilerman)

3. With TALENT, a longitudinal study of job satisfaction could be conducted and would be an important contribution. One could look at how experiences and opportunities over time shape a person's attitudes to work and job satisfaction; also, look at what aspects of a job are effective in motivating people to work.

4. On unemployment, look at the impact on the individual's self-concept and sense of competence, and also on the deterioration of family capital and marital disillusionment.

5. Consider how the concept of a career (and commitment to a career) differs for women. How is the career experience different for women?

6. Avoid viewing discontinuities as unproductive time or as deviations from a path, since such discontinuities are becoming a pattern for more and more workers.

7. Look at to what extent the respondents have focuses in their work lives, or to what extent their plans have crystallized by age 35. Are those who were floundering at 24 or 29 still without career goals, or do early flounderers stabilize?

8. Look at how individuals cope with work and achievement pressures. What is the impact on their health and family life?

9. Investigate individuals' perceptions of barriers to achievement.

10. In considering determinants of career status and progress at age 35, include the full range of personal and career experience variables discussed (e.g., early career aspirations, extent and character of postsecondary education, discontinuities, extent and character of family responsibilities, health, SES, race, and sex).

11. Look at the role of career change in the process of career establishment, a central concern for individuals at this stage in their lives.

12. Clarify definitions of the terms "work" (a paid activity, or any productive activity?) and "career" (an orderly sequence of jobs, or merely one's job history?). Note that many workers do not have "careers" in the sense of an ordered progression of jobs, and for them measures of career progress or attainment may be inappropriate.

Recommendations Regarding Lifelong Learning Pursuits

The importance, and increasing prevalence, of educational experiences throughout one's life was recognized by the panel, who felt that this area was important in terms of its relationship to current policy questions (such as improved school-work-school transitions and lifelong learning). Some doubt was raised regarding the probability of obtaining useful data on kinds of experiences, given the variety of continuing education opportunities and the predicted difficulty of respondents in adequately reporting the kind(s) of programs they participated in. There was also some concern about possible middle-class bias in the discussion of continuing education. Suggestions for topics and issues to investigate in this area were:

1. Consider getting data on incidental learning opportunities and experiences (not from courses). What about skill in self-learning, and learning from experience?

2. Document the kinds of benefits individuals actually receive from education after their regular youth education, what kinds of changes they couldn't make in their lives because circumstances prevented additional education or training. We need new measures of benefits in other-than-monetary terms; cost-benefit and other aggregated economic measures of educational outcomes are "grossly inadequate."

3. Look not just at how much education people have, but also at what they've done with it.

4. Look at the purposes of education--validation or credentialing of experience, "passport," etc.

5. Differentiate between job-specific educational experience and general educational experience.

6. Consider intensive focus on education for a special subgroup.

7. The context is important--look at what opportunities are available for continuing education, since demand may be expected to be influenced by its availability (supply).

Recommendations Concerning the Development of Family Roles

There was considerable interest in the potential of TALENT data for studying family roles and relationships, both in their own right and as they interact with other aspects of one's life. The family was viewed as a socializing unit as well as an economic unit, and family relationships impact on the spouses or parents, as well as on the children. A major, general question to investigate, in light of current shifts in the definition of the family and family roles, is "What is the function of the family?" It was noted that the courts now define family as a functioning unit, and that TALENT studies should not restrict the term family to the traditional concept but should look at the range of living arrangements that men and women develop (e.g., single-parent families, families with stepchildren, parents not living with their children due to separation or divorce).

Several suggestions were offered relating to the three aspects of family roles originally proposed: marital roles, parenting roles, and extended family relationships. In addition, a fourth area of investigation was proposed: the family economy.

With regard to marital roles, the panel strongly recommended obtaining data from spouses. Such data was considered vital both for an adequate understanding of the family and also to provide some perspective to the responses of the original respondent. Other suggestions concerning additional kinds of data that might be obtained were as follows.

1. Remarriage was considered a very important line of study, and one that should be examined apart from divorce.

2. Include data on spouses' concepts of male and female roles, or on sex-role attitudes.

3. Include data on the most valued aspects of marriage.

4. Examine perceived problems in the marriage relationship, and the coping strategies and sources of support used in dealing with those problems.

5. Include consideration of spouses' (preferred) life styles in study of division of labor.

Because of the radical changes we are now witnessing in men's and women's attitudes toward children and having children (as evidenced by the declining birth rate and increasing incidence of childless families), there were many suggestions regarding research questions and data concerning parenting and

children. A general theme underlying these suggestions was "What is the role of children in the family today?"

1. Consider what investments people must make in children. What are the costs? the gratifications? Do parents have second thoughts?

2. Look at parents' values and aspirations for their children. (References: Mel Kohn's work at NIMH on parental values; Lois Hoffman's work at ISR on aspirations for children; Foundation for Child Development survey on State of the Child, on aspirations for children; Daniel Yankelovich's study of families)

3. One possible study would be to look at the implications of the respondents' fathers' military experience in World War II, in terms of their presence or absence in the family.

4. What are the parents' concepts of themselves as parents--their sense of competence?

5. What are the patterns of common family activity (also common spousal activity). How much time does the family spend doing things together, and in what activities? How much time is spent with the children, and how is it spent (e.g., in activities with the children, in transporting them)? Consider the quality of the interaction as well as the amount of time involved.

6. Explore the parents' perceptions of parenthood by asking about the most rewarding and most difficult ages of children, and why they found them so.

7. Look at the effects of remarriage on children and stepchildren.

The extended family was generally viewed as an important area to investigate because it represents both a source of support to the family unit and a potential additional responsibility. This area also has implications for policy decisions regarding community facilities and services that are needed to enable individuals to continue to effectively manage their lives under changing social patterns and conditions (e.g., increased numbers of women and mothers working, higher crime rates, shortages in energy and other resources). Specific topics recommended for investigation include the following:

1. What substitutes for the extended family in today's world (e.g., unrelated friends, community of neighborhood associations)?

2. How salient are the issues of the needs of one's parents, caring for one's parents, and one's own retirement to respondents at this time (age 35)?

3. Consider exploring in greater depth the kinds of community services and programs utilized (and for what purpose).

The issue of the family economy was viewed as essential to understanding family relationships and the impact of family on other aspects of the respondents' lives. "We are entering an age that will require major alterations in life style, living conditions. What will be the implications of perceived change that will require a fundamental change in the economy and life styles of families, in the debt pattern of family life that emerged during the prosperous 20s?" Data should be obtained on the following topics:

1. Family resources:
   - income
   - assets
   - outstanding debts

2. Consumption aspirations

3. Security:
   - financial status pressures and worries
   - sense of financial security
   - concern for future security (has respondent made a will? set up a retirement plan?)

4. Resource management and allocation

(Reference: ISR Panel Study on Income Dynamics)

Recommendations Regarding Leisure and Civic Pursuits

The panel generally agreed that leisure activities should be differentiated from civic pursuits. They further suggested that in examining individuals' leisure activities, it would be important to look at why they engage in various activities, or what social and psychological functions the activities serve, as well as what activities they engage in, and to look at how one's leisure pursuits interact with other life roles. Other recommendations relating to leisure and civic pursuits were:

1. Explore individuals' participation in the community as an aspect of their life development. What in a person's background or experience appears to be essential in determining their motivation to participate in community affairs?

2. Consider looking at people's political inclinations. How do they change at various points? Also look at their political attitudes and political alienation. (References: ISR studies on civic participation)

3. Redefine leisure as one use of discretionary time. Other uses would include personal investment behavior and altruistic activity. (Reference: work of World Leisure Society)

4. Look at the opportunities people have for effective participation in civic life.

5. References: Marty Mueller's work at Wesleyan on voluntarism and the use of time; Sara Fensterman-Berk's work at UCSB on household work; National Council on Voluntary Action.

6. Ask respondents how they foresee spending the next 20 years of their lives, to assess the roles they foresee relating to leisure, education, etc.

7. Regarding television, considerable research has already been done on how much time people spend watching television, and what they watch. Further, such questions do not fully utilize the longitudinal data. It would be more productive to examine why people watch television, and how television fits into the total picture of an individual's life situation.

Recommendations Regarding Personal Values and Life Style

The section on life styles was considered extremely pertinent to the study of adult development and transition to adulthood. It further represents an important extension of life cycle analysis. Life style is viewed as a potentially powerful mediating variable, or perhaps even a predictor of life outcomes. Thus it will be important to develop some index or indices that show what a person's life style is. The panel's recommendations for this section were:

1. Life style is more than a function of one's values or preferences. The assessment of life style should also take externalities into consideration--an individual's life roles, life-management constraints, and critical events in his or her life.

2. Time allocation data would be one important means of determining a person's life style. Data should be gathered on individuals' time allocations both between and within major areas such as work, family, learning, leisure, civic activities. Data could be in terms of absolute hours spent or rankings (e.g., where the most time is spent, the next most, etc.). Either approach would yield a picture of the individuals' relative investments of time in different life areas. (Reference: Tom Juster's work at ISR on time allocation)

3. Data might also be obtained on the individuals' anticipated or desired life style or standard of living, as a measure of aspirations. The discrepancies between actual and desired life style should be examined. (This might be gotten at by asking if people had more time and money, how and where would they spend it?)

4. Look at the interactions between individuals' life roles and their life styles.

Recommendations Regarding Survey Design and Methodology

The panel members had many useful suggestions regarding the sampling and data collection which were aimed at enhancing the value of the data base. Some have been referred to in connection with the various areas to be investigated in the survey; however, all are listed below.

1. It is important to link into existing surveys and data bases, especially where national samples are used. Other surveys have already developed and used scales measuring some of the variables of concern in the TALENT study, and drawing on these already developed and tested measures would be efficient and would likely produce more valid data. Recommended data sets include the following:

    a. Survey on children, by Lois Hoffman at ISR
    b. Panel survey on income dynamics, at ISR
    c. Studies of political behavior and attitudes, at ISR
    d. Studies of time allocation, by Tom Juster, at ISR
    e. Americans View Their Mental Health, at ISR
    f. Survey of values for children, by Mel Kohn, at NIMH
    g. Survey on aspirations for children, by Foundation for Child Development (FCD)
    h. National Health Survey, by Nick Zill, at FCD
    i. Studies by the World Leisure Society
    j. Studies by the Social Science Research Council study groups
    k. Survey on families by Daniel Yankelovich

2. Maximize the correspondence between the sample for the 17-year survey and the respondents to previous follow-up surveys. Consider oversampling the Knoxville sample, retest sample, and the 4% sample.

3. Develop seaprate forms of the questionnaires for men and for women; this is especially important regarding employment, where different questions are needed for women and men.

4. Consider the possibility of collecting more retrospective life-history data. (Reference: work by Coleman & Rossi on John Hopkins Life History Study)

5. Consider the need for observational or interview data (especially regarding the study of family roles and interactions).

6. Make more extensive use of open-ended questions and probes to elicit the bases of satisfaction, stresses, etc.

7. Consider the tradeoffs between the inclusion of personal questions and the rate of response; also between the length of the questionnaire and the rate of response.

ATTACHMENT 3

SURVEY INSTRUMENTS AND OTHER RESOURCES CONSULTED

TO IDENTIFY QUESTIONNAIRE ITEMS

Attachment 3

SURVEY INSTRUMENTS AND OTHER RESOURCES CONSULTED

TO IDENTIFY QUESTIONNAIRE ITEMS

Questionnaires Reviewed

An Empirical Study to Aid in Formulating Educational Goals (American Institute for Research).

Attitudes About Children Survey (Institute for Social Research).

Current Population Survey (Bureau of the Census).

HELP (Health Evaluation and Learning Program) Health Questionnaire (Medical Datamation Corp.)

Identifying Opportunities for Improving the Quality of Life of Older Age Groups (American Institute for Research).

Life Plans Questionnaire (Radcliffe Institute).

Michigan Student Follow-Up Study (University of Minnesota).

National Longitudinal Surveys: Surveys of Work Experience of Young Women, Young Men, Mature Women, and Mature Men (Ohio State University).

National Survey of Children (Foundation for Child Development).

Occupational Changes in a Generation (Bureau of the Census).

Project TALENT 11-Year Follow-Up Questionnaires (American Institute for Research).

Raising Children in a Changing Society (General Mills).

Study of Family Economics (Institute for Social Research).

Study of Modern Living, 1976 (Institute for Social Research).

Study of Occupations (National Opinion Research Center and National Institute of Mental Health).

The 1972-73 Quality of Employment Survey (Institute for Social Research).

Time Use Study (Institute for Social Research).

Wisconsin School Study (Wisconsin Survey Research Laboratory).

1976 Pre-Election Study (Institute for Social Research).

1976 Post-Election Study (Institute for Social Research).

Other Resources Consulted

Mason, K. O., Sex-Role attitude items and scales from U.S. sample surveys. Ann Arbor, Michigan: Population Studies Center, 1975.

National Assessment of Educationl Progress. Adult work skills and knowledge. Denver, Colorado: National Assessment of Educational Progress, 1976.

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University of Texas. Adult functional competency: A summary. Austin, Texas: University of Texas, 1975.

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ATTACHMENT 4

PRIMARY RESEARCH ISSUES AND RELATED DATA CONSTRUCTS

FOR THE TALENT 17-YEAR FOLLOW-UP

ATTACHMENT 4

PRIMARY RESEARCH ISSUES AND RELATED DATA CONSTRUCTS
FOR THE TALENT 17-YEAR FOLLOW-UP

Education/Learning Issues

E-1 (Core) What are the long-term benefits of education beyond high school, in terms of career attainment and satisfaction as adults, for individuals with varying skill levels, having different career goals and aspirations, and pursuing different career paths? How does postsecondary education or training serve to facilitate one's career development at various stages (e.g., in gaining entry to a career path, in becoming established in a career, in changing careers)?

Relevant Data Constructs

- Level of education
- Current work status
- Nature of job
- Occupational attainment
- Job satisfaction
- Establishment in a career
- Career change experience
- Life career path

E-2 (Core) What are the long-term benefits (or costs) of various other developmental experiences (e.g., military service, volunteer service, job training or work experience programs) in terms of career attainment and progress as an adult? To what extent do such experiences help compensate for early disadvantages in terms of skill levels, SES, sex, or ethnic group affiliation? How does this impact vary depending on the life cycle/career development stage during which it occurred?

Relevant Data Constructs

- Job training
- Other developmental experiences
- Current work status
- Nature of job
- Occupational attainment
- Job satisfaction
- Establishment in a career
- Life career path

E-3 (Core) How do individuals' continuing education experiences help them to further develop their skills and to carry out their various adult roles (e.g., explore new careers, develop new work skills, prepare for parenthood)? How does this impact vary for men and women with different background characteristics (e.g., SES, ethnic group, ability levels, level of education)?

Relevant Data Constructs

- Continuing education experience
- Perceived impact of educational experiences
- Occupational attainment
- Job change experience
- Level of education
- SES
- Work status
- Family situation
- Perceived personal competence (year 2)
- Parent education experience (year 2)

E-4 (Core) To what extent are individuals' ongoing needs for education/learning provided for? What education/learning resources are used by adult men and women? Is there an equitable distribution of lifelong learning resources for all segments of the adult population?

Relevant Data Constructs

- Educational needs and plans
- Continuing education experiences
- Perceived impact of educational experiences
- Level of education
- SES

E-5 (Core) What factors facilitate or inhibit the pursuit of formal continuing education for men and women at different socioeconomic levels? with different work and family situations? How do the costs (in time, money, and effort) of continuing education vary as a function of the subject matter, setting, and format of the learning experience? Who, other than the subject, bears some of these costs?

Relevant Data Constructs

Costs of continuing education
Continuing education experiences
Work status
Family situation
SES

E-6 (Core) To what extent do individuals' education backgrounds relate to their life management knowledge as adults? Do particular kinds of educational experiences (e.g., high school program, continuing education courses) relate to higher knowledge levels? What other aspects of individuals' backgrounds (e.g., SES, family situation, type of job) relate to higher knowledge levels?

Relevant Data Constructs

Level of education
Continuing education experiences
Other developmental experiences
Life management knowledge
Perceived impact of educational experiences
Nature of current job
Family situation
SES

E-7 (Year 3-4) From what incidental learning opportunities do adult men and women acquire information and skills (e.g., newspapers, television, interactions with friends or co-workers, family, children)? How does the availability and use of such opportunities relate to individuals' early skills and learning potential (e.g., study habits, school performance)? to their adult life style and SES?

Relevant Data Constructs

- Incidental learning opportunities (years 3-4)
- Life management knowledge
- Life style
- SES
- Leisure activities
- Civic activities
- Family situation
- Nature of job
- Family interactions

E-8 (Year 4) To what extent do individuals' knowledge and skill levels change during high school and over the course of the adult life span? What educational and other life experiences contribute to growth at various life stages?

Relevant Data Constructs

- Life management knowledge
- Cognitive skills (as adults) (year 4)
- Level of education
- Other developmental experiences
- Continuing education experiences
- Incidental learning opportunities (years 3-4)
- Life span history
- Nature of job
- Family situation
- Leisure activities
- Civic activities
- Family interactions

Work-Role Issues

W-1 (Core) To what extent are individuals' career attainment and satisfaction at (approximately) age 35 and their progress over time on selected measures of career achievement influenced by personal and background characteristics (e.g., SES, sex, ethnic group, abilities, level of education)? To what extent do their attainments and satisfactions further vary according to their work experience (e.g., years in work force, continuity of work experience, job sequence) and to their career salience and life-role orientations? To what extent does the impact of these factors vary for different occupational groups, or for occupations with differing characteristics (e.g., demands on private life, time demands, time pressure)?

Relevant Data Constructs

Current work status
Nature of job
Occupational attainment
Establishment in a career
Job satisfaction
Level of education
Life-career path
Life role orientations
Career Salience
Job demands and pressures
Complexity of job

W-2 (Core) To what extent can individuals' career attainment, satisfaction, and progress at age 35 be predicted from the combined assessment of their interests, aspirations, motivation, and demonstrated abilities during high school? How do interests and aspirations interact with abilities influencing subsequent attainment? What are the benefits and costs, in terms of career achievement and satisfaction as adults, of setting one's sights too high (or too low) in high school? What is the impact of setting one's sights too low or too high on other aspects of one's quality of life and well being?

Relevant Data Constructs

Current work status
Nature of job
Occupational attainment
Establishment of a career
Job satisfaction
Family situation
Satisfaction with quality of life in 15 areas
SES

W-3 (Years 1-2) To what extent, and in what ways, do unemployment (voluntary or involuntary) or other career discontinuities impact on one's subsequent career aspirations and attainment and on one's well-being and quality of life as adults? How does this impact differ for men and for women with differing family situations and role orientations? How is this impact mediated by the duration and timing (in the life cycle) of the period of unemployment or discontinuity? How do ways in which individuals cope with unemployment (e.g., the sources of support available) mediate the impact of unemployment on career attainment and quality of life?

Relevant Data Constructs

Life career path
Current work status
Nature of job
Occupational attainment
Job satisfaction
Satisfaction with quality of life in 15 areas
SES
Coping with unemployment
Career salience
Family situation
Financial well being
Health status

W-4 (Core) To what extent are men and women in their mid-30s becoming established in a career vs. changing (or planning to change) careers? Do early "flounderers" settle down or do they become career changers? What background/experiential factors relate to career establishment?

Relevant Data Constructs

- Life-career path
- Current work status
- Nature of job
- Job change experience
- Career plans/goals
- Establishment in a career
- Career salience
- Job satisfaction
- Level of education
- Family situation
- Life style

W-5 (Core) How do individuals' work values and career aspirations change over time? How do such changes relate to changes in their life situations? To what extent do discrepancies between their early aspirations and values and their subsequent attainment and satisfaction lead to changes in aspirations and values, or to changes in the job? Are career changers any "better off" in terms of attainment, satisfaction, or realizing their aspirations?

Relevant Data Constructs

- Career salience
- Career plans/goals
- Job satisfaction
- Life career path
- Job change experience
- Occupational attainment
- Family situation
- Marital history

W-6 (Core) What personal attributes, skills, or experiences (e.g., basic skill levels, level of education, work experience, marital/family status) facilitate or hinder men's and women's occupational mobility? What personal attributes, skills, or experiences facilitate or hinder women's career re-entry? To what extent do the spouse's work situation and attitudes to the respondent's career facilitate or hinder career change or career re-entry?

Relevant Data Construct

- Level of education
- Life-career path
- Family situation
- Career salience
- Job change experience
- Career plans/goals
- Occupational attainment
- Job satisfaction
- Spouse's work status
- Sex role attitudes of both spouses

W-7 (Core) For women who work for pay, how do their career plans, motivation, development, and attainment over the life span differ from those of males with comparable abilities and potential? Are initial disadvantages (e.g., occupational segregation by sex, earnings inequities) increased, maintained, or diminished over the life span? What are the roles of education and early work experiences in minimizing such disadvantages? How do women in nontraditional occupations differ from those in traditional occupations?

Relevant Data Constructs

- Work status
- Nature of job
- Complexity of job
- Life career path
- Career plans/goals
- Occupational attainment
- Establishment in career
- Career salience
- Job satisfaction
- Family situation
- Level of education

W-8 (Core) To what extent are men's and women's talents being underutilized (based on the relationship between their own abilities and the average abilities of others in their current occupation)? What experiences (or lack of experiences) in high school and in post-secondary education appear to contribute to this underutilization? To what extent do subsequent work experiences and life role orientations and demands contribute to underutilization? How does underutilization of talents relate to men's and women's career attainment and satisfaction and to their quality of life as adults?

Relevant Data Constructs

- Work status
- Nature of job
- Life-career path
- Family situation
- Career salience
- Level of education
- Occupational attainment
- Job satisfaction
- Satisfaction with quality of life in 15 areas
- Life role orientation
- Family responsibilities

W-9 (Year 2) In what ways can one's work facilitate or hinder the carrying out of one's life management tasks and other adult roles (e.g., by providing special resources, by placing constraints on individuals' time)? What occupations or characteristics of occupations are especially helpful or constraining? What other personal characteristics or experiences mediate this relationship (e.g., level of education, family status, life-role orientations)? In particular, how is the impact of work on other life roles compounded for individuals in dual-career families and for single parents?

Relevant Data Constructs

- Work status
- Nature of job
- Job demands and pressures
- Life role orientation
- Family situation
- Family responsibilities
- Level of education
- Spouse's work status
- Sex role attitudes of both spouses
- Satisfaction with quality of life in 15 areas

Family Role Issues

F-1 (Core; year 2) How does the nature of family interactions (e.g., time spent in various activities, nature of activities) vary for individuals with different marital historys, family situations, and different life role orientations? What aspects of marriage and parenthood (e.g., support, companionship) are most (least) valued by individuals at different life stages, and to what extent do individuals feel their needs are being met? What is the relationship between family interactions and perceived quality of family life for individuals with different family situations and life role orientations?

Relevant Data Constructs

- Family interactions
- Family situations
- Life role orientation
- Quality of family life
- Values for marriage (year 2)
- Values for children (year 2)

F-2 (Core) How is the domestic division of labor (e.g., tasks carried out by spouses, children, and/or outside help) affected by the course of childbearing and by the career pursuits of both spouses? To what extent is this relationship influenced by the role orientations and sex role attitudes of the spouses? To what extent do men and women with nontraditional occupations or work roles (e.g., men working part time) also have nontraditional family roles?

Relevant Data Constructs

- Family responsibilities (division of labor)
- Family situation
- Life role orientation
- Sex role attitudes of both spouses
- Respondents' work status
- Job demands and pressures
- Spouse's work status

F-3 (Core; Year 2) How has marital dissolution or separation, or widowhood had impact on various aspects of individuals' economic and psychological well-being and quality of life? What special problems are encountered (e.g., need for financial support, special services, social interaction, legal assistance) and what resources are drawn on in resolving them?

Relevant Data Constructs

- Marital History
- Personal well-being
- Personal outlook
- Quality of life
- Work status
- Family responsibilities
- Family situation
- Life role orientation
- Problems in separation from spouse (through divorce or death) (year 2)
- Resources used in coping with separation from spouse (year 2)
- Values for marriage (year 2)
- Values for children (year 2)

F-4 (Core; Year 2) In what ways has remarriage (in the past 6 years) had impact on adults and on their children, in terms of their personal outlook and well-being and their quality of life? What special problems are encountered, and what resources are drawn on in resolving them?

Relevant Data Constructs

- Marital history
- Personal outlook
- Personal well-being
- Family responsibilities
- Family situation
- Well-being of children (year 2)
- Problems in remarriages (year 2)
- Resources used in coping with remarriage (year 2)
- Values for marriage (year 2)
- Values for children (year 2)

F-5 (Core; Year 2) What special advantages or disadvantages in terms of quality of family life, family interactions, and personal outlook and well-being are associated with close relationships with members of the extended family? What plans do individuals have for caring for elderly relatives?

Relevant Data Constructs

Quality of family life
Family interactions
Family situation
Family responsibilities
Personal outlook
Personal well-being
Relationships with extended family (year 2)
Plans for elderly relatives (year 2)
Well-being of children (year 2)

F-6 (Year 2) What substitutes for extended family relationships and supports do people find (e.g., unrelated friends, neighborhood cooperatives) to help provide for various family functions and other life management needs (e.g., child care, transportation)? What benefits and responsibilities accrue from these affiliative relationships? What community services and programs are utilized, and for what reasons?

Relevant Data Constructs

Family situation
Family responsibilities
Relationships with extended family (year 2)
Other supportive relationships (year 2)
Community resources utilized (year 2)

F-7 (Year 2) To what extent, and in what ways, do family situation and life role orientation (e.g., number of children, single-parent, dual-career) relate to the nature of childrearing practices (e.g., quantity and quality of time parents spend with children, disciplinary methods, time child spends with other children, participation in preschool or extracurricular activities)? How do such practices in turn relate to parents' self-evaluation of their competence as parents, their satisfaction with the quality of their family life, and to the development of their children? To what extent, and from what sources, do parents seek out information relating to childrearing (e.g., from books, classes, other family members, friends, medical/educational/other experts)?

Relevant Data Constructs

Marital history
Family situation
Life role orientation
Quality of family life
Well-being of children
Family interactions
Family responsibilities
Childrearing practices (year 2)
Perceived parental competence (year 2)
Development of children (year 2)
Need for childrearing information (year 2)
Sources of childrearing information (year 2)
Values for children (year 2)

F-8 (Core) What are the perceived costs and rewards of childrearing for individuals with children at different ages, and for individuals with different life styles and different family situations?

Relevant Data Constructs

Life style
Family situation
Family interaction
Quality of family life
General quality of life
Life-career path
Values for children (year 2)

F-9 (Year 2)

How are values and aspirations transmitted across generations? How do parents' aspirations and values for their own children relate to their own values and aspirations for themselves and to their own parents' aspirations for them?

Relevant Data Constructs

Values for children
Sex role attitudes
Family situation
Childrearing practices (year 2)
Children's development (year 2)

Leisure and Civic Role Issues

C-1 (Core) How do individuals' leisure orientations as adults vary--what patterns can be identified? What are the characteristics of people with different leisure orientations as adults (e.g., sex, ethnic group, level of education, work, family situation, health status)?

Relevant Data Constructs

- Leisure orientation
- Level of education
- Work status
- Nature of job
- Job demands and pressures
- Family situation
- Health status

C-2 (Year 3) How do men's and women's orientations to leisure (e.g., nature and extent of leisure pursuits, related values) as youth relate to their orientations to leisure as adults? What subsquent experiences (e.g., educational experiences, social climate) influence individuals' leisure orientations as adults?

Relevant Data Constructs

- Leisure oreientation
- Level of education
- Other developmental experiences
- Continuing education experiences
- Incidental learning experiences (years 3-4)

C-3 (Core) How do men's and women's civic role orientations as adults differ--What patterns can be identified? What are the characteristics of individuals with differing civic role orientations (e.g., sex, ethnic group, level of education, work, and family situations)?

Relevant Data Constructs

- Civic role orientation
- Leisure orientation
- Level of education
- Work status
- Nature of job
- Job demands and pressures
- Family situation
- Family interaction
- Health status

C-4 (Year 3) How do men's and women's civic role orientations as youth relate to their civic role orientations as adults? What subsequent experiences (e.g., educational experiences, social climate) and personal value systems motivate people to participate in civic affairs as adults?

Relevant Data Constructs

- Civic role orientation
- Level of education
- Other developmental experiences
- Self-esteem
- Authoritarianism
- Social responsibility
- Incidental learning experiences (years 3-4)

C-5 (Years 3-4) How do individuals' leisure and civic role orientations as adults relate to their plans for when they retire or when their children are grown? What are the implications for lifelong learning and guidance programs?

Relevant Data Constructs

- Leisure orientation
- Civic role orientation
- Plans for retirement
- Continuing education experience
- Continuing education needs and plans

Life Style and Personal Values Issues

S-1 (Core) What major patterns of activities and values relating to work, family, education, civic roles, leisure, and personal well-being (life styles) can be identified from the activity and value data collected?

Relevant Data Constructs

- Life role orientations
- Personal values
- Health risk behaviors
- Financial risk behavior
- SES

S-2 (Core) How do individuals with the identified life-styles differ in terms of their satisfactions and attainments in various areas? How do they differ in terms of their personal well-being and overall quality of life?

Relevant Data Constructs

- Quality of life
- Personal well-being
- Occupational attainment
- Establishment in career
- Job satisfaction
- Quality of family life
- Life management knowledge
- Cognitive skills as adults (year 4)
- Parental competence (year 2)
- Current life style

S-3 (Core) What are the early characteristics of individuals (background, abilities, interests, activities, and values) with different life styles? How have the participants' life styles changed between age 29 and age 35? What experiences (educational, work, family, etc.) are correlated with significant life style changes? What role has education played in shaping individual life styles?

Relevant Data Constructs

- Current life style
- Life career path
- Continuing education experience
- Level of education
- Marital history
- Family situation
- Migration

S-4 (Core) To what extent are the relationships between early characteristics and experiences, current life style, and satisfactions and attainments moderated by differences in personal outlook? by differences in life-career paths followed?

Relevant Data Constructs

- Current life style
- Quality of life
- Personal well-being
- Occupational attainment
- Establishment in a career
- Job satisfaction
- Quality of family life
- Parental competence
- Life management knowledge
- Cognitive skills as adults
- Personal outlook
- Life career path
- Marital history
- Family situation

ATTACHMENT 5

QUESTIONNAIRE FOR YEAR ONE OF THE
PROJECT TALENT 17-YEAR FOLLOW-UP

PROJECT TALENT 17-YEAR FOLLOW-UP

To help us make sure our records are correct, please examine the address label at the right for any errors in the name or address. If you do find any mistakes, or if the address shown is not the one to which your mail should be sent, please print your correct name and address in the Address Box provided.

Also, please indicate below your sex and the date of your birth.

Sex: (M) (F)

Birthdate: ____/____/____
Month Day Year

Address Box

Last Name First Name

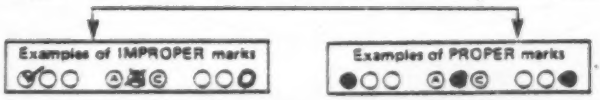
Street Address

City and State Zip Code

DIRECTIONS

Your answers to most of these questions will be read by a machine. Please use a NUMBER 1 or NUMBER 2 LEAD PENCIL (soft lead). The machine can't see ink, so please don't use a pen.

Except for a few questions that ask for a short written answer, you can answer by filling in a circle. Please blacken all of the circle for the answer you choose as shown below.



If you change your mind, please erase well the mark for your first answer. Where you write out an answer on the questionnaire, please do not write outside the space provided.

Page 14 of this questionnaire contains questions for your spouse or living partner to answer about his or her background and experiences. Please ask him/her to answer these questions. If you are currently single please disregard this page of the questionnaire.

Important: If you find you want to make comments or suggestions as you go along, please write them on the back page of this booklet or on a separate piece of paper and enclose them in the return envelope with your questionnaire. If a comment applies to a specific question, please indicate the question number with your comment. Thank you.

I. LIFE COURSE SINCE 1960

In this survey we want to learn about the major events in your life now, in your 30s, how also how rewarding you are finding your life as an adult. To help us understand how you got where you are today, we would like you to fill out this outline of what you were doing in <u>each</u> of the years since 1960, when you first participated in Project TALENT. This information is <u>very important</u> for helping us to understand the patterns of events that have shaped your life. Please fill in this outline as completely as possible. Thank you.

1. Please indicate which, if any, of the activities below you were engaged in in <u>January</u> of <u>each year</u> since 1960. Mark as many as apply.

2. For each year in which you indicated you had a job (including military service), please tell us <u>what the job was</u> (e.g., stock clerk, farmer, elementary teacher), its <u>main tasks</u> (e.g., keep account books, sell cars), and the <u>kind of business</u> it was with (e.g., retail clothing store, city government). If you had the same job for more than one year, write "same" for the second and later years.

School	Part-time paid job	Full-time paid job	Unpaid job	Full-time homemaker		JOB TITLE	MAIN TASKS	KIND OF BUSINESS
0	0	0	0	0	Jan. '61			
0	0	0	0	0	Jan. '62			
0	0	0	0	0	Jan. '63			
0	0	0	0	0	Jan. '64			
0	0	0	0	0	Jan. '65			
0	0	0	0	0	Jan. '66			
0	0	0	0	0	Jan. '67			
0	0	0	0	0	Jan. '68			
0	0	0	0	0	Jan. '69			
0	0	0	0	0	Jan. '70			
0	0	0	0	0	Jan. '71			
0	0	0	0	0	Jan. '72			
0	0	0	0	0	Jan. '73			
0	0	0	0	0	Jan. '74			
0	0	0	0	0	Jan. '75			
0	0	0	0	0	Jan. '76			
0	0	0	0	0	Jan. '77			
0	0	0	0	0	Jan. '78			

<u>PLEASE BE SURE</u> TO INDICATE WHAT YOU ARE DOING IN <u>JANUARY 1978</u>.

I. EDUCATION AND TRAINING EXPERIENCE

3. What is the <u>highest</u> amount of formal education you have <u>completed</u>?

High School	College or Professional School	
O 9th grade	O 1 year	O 5 years
O 10th grade	O 2 years	O 6 years
O 11th grade	O 3 years	O 7 years
O 12th grade	O 4 years	O 8 or more years

4. Which of the following degrees or licenses have you obtained? Mark as many as apply.

O High school diploma
O Associate degree (two-year degree: A.A., A.S., etc.)
O Professional/technical license (R.N., C.P.A., etc.)
O Bachelor's degree (B.A., B.S., etc.)
O Master's degree (M.A., M.S., etc.)
O Ph.D. or Ed.D.
O Advanced professional degree (M.D., D.D.S., LL.B., etc.)
O Other (Specify) (Specify)

5. Which, if any, of these degrees or licenses do you <u>expect to obtain</u> in the future? Mark as many as apply.

If <u>none</u>, Mark here. ☐

6. Have you participated in any adult education classes or college or community college classes between January 1972 and January 1977?

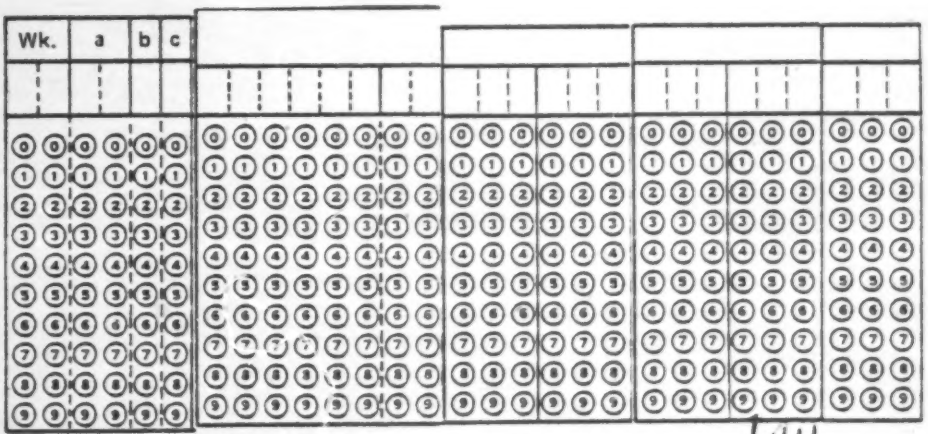
O Yes (continue to question 7)
O No (skip to question 10)

7. How many courses have you <u>completed</u> in each of the following areas since January 1972?

None	1-2	3 or more	
O	O	O	Basic skills (reading, writing, speaking)
O	O	O	Science or mathematics
O	O	O	Literature
O	O	O	Foreign language
O	O	O	Arts and crafts (printing, woodworking, etc.)
O	O	O	Technical or job-related skills (such as computer programming, etc.)
O	O	O	Home management and maintenance (such as auto repair, electrical repairs, cooking, sewing)
O	O	O	Child development and child rearing
O	O	O	Health and safety; Nutrition
O	O	O	Sports/Physical Fitness
O	O	O	Personal financial management
O	O	O	Personal development
O	O	O	Citizenship
O	O	O	Other _____

8. In which of the following kinds of programs have you participated during the past 6 years? (Mark as many as apply.)

O College or community college degree program
O Other college or community college courses
O High school adult education courses
O Correspondence course at home
O University extension program
O Program by community groups (Red Cross, city recreation department, etc.)
O Other (Specify _____)



9. In what ways do you feel your continuing or adult education courses have been of benefit to you? (Mark as many as apply.)

- O They helped me improve my job-related skills or to get a promotion or pay increase.
- O They helped me develop my leisure interests.
- O They aided me in civic pursuits.
- O They aided me in raising my children.
- O They aided me in managing or caring for my home.
- O I was able to share an activity with my spouse.
- O They helped me get an educational degree or prepare for a college program.
- O They helped me prepare for a new kind of work.
- O Other (Specify_____)

10. Have you participated in any employer-sponsored training or development programs since January 1972?

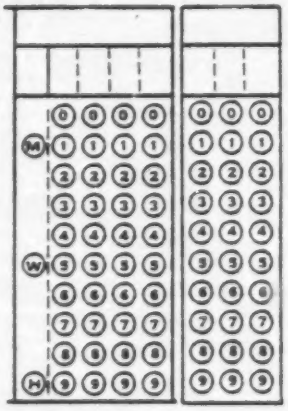
- O Yes (Continue to question 11.)
- O No (Skip to Section III.)

11. What kind(s) of program(s) were they? (Mark as many as apply.)

- O Training in skills related to my work tasks at that time
- O Training in interpersonal skills
- O Training in skills related to a different line of work
- O College or graduate program sponsored by my employer
- O Other (Specify_____)

12. In what way(s) was this training of benefit to you?

- O It helped me to do my existing job tasks.
- O It resulted in a change in the kind of tasks I carried out.
- O It resulted in a promotion.
- O It resulted in a pay increase.
- O Other (Specify_____)
- O There was no particular benefit as far as I could tell.



III. CURRENT WORK SITUATION

These questions related to your job or line of work in January 1978 as indicated in your answer to question 2. We are interested in learning how men and women are using the skills they have developed and how rewarding they find their work. Please answer these questions if you now have any paid or unpaid job (including homemaker). IF you do not now have any job, skip to question 24.

13. Which of the following are you? (Mark only one.)

- O An employee of a private company, business, or individual for wages, salary, or commissions.
- O A GOVERNMENT employee (federal, state, county, or local government)
- O Self-employed in OWN business, professional practice, or farm.
- O Working WITHOUT PAY in a family business or farm.
- O Other (Specify_____)

14. What is the usual number of hours you spend in a a week working on this job?

O 1-15 O 26-35 O 46-55
O 16-25 O 36-45 O 56 or more

15. If you were paid for this work, approximately how much was your pay (before taxes and deductions) as of January, 1978? Please fill in whichever one of the boxes is most appropriate for you.

$ per year or $ per month or $ per week or $ per hour

16. Approximately what was your total income in 1977 from this job, in wages or salary or in net income from your own business, professional practice or farm?

O None $

17. In 1976, how many weeks did you work on this job (including paid vacations and holidays)?

(Weeks)

18. Are you a member of a labor union or employee's association?

O Yes O No

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19. In an average <u>week</u> on this job, about how many hours do you spend on each of the following kinds of activities?

	Hours 0-10	11-20	21-30	31 or more
a. Reading, writing, and working with written materials	0	0	0	0
b. Working with your hands, tools, or equipment	0	0	0	0
c. Dealing with people in your work (not including just passing the time of day	0	0	0	0

20. How frequently does your job or line of work require you to do any of the following? (Mark as many as apply.)

A Not at all
B Occasionally
C Often

A B C

○○○ a. Participate in certain social or community activities in your free time.
○○○ b. Work under severe time pressure.
○○○ c. Work overtime at your workplace or at home.
○○○ d. Move to a new location.
○○○ e. Travel away from home.
○○○ f. Entertain business associates or clients.

21. Considering <u>all</u> aspects of your current job (the work, pay, co-workers, future, etc.), how satisfied are you with it? (Mark one.)

0 Very satisfied
0 Somewhat satisfied with it
0 Not too satisfied with it
0 Not at all satisfied with it

22a. Did you have any other paid or unpaid jobs or work in January 1978?

0 Yes 0 No (skip to question 23)

22b. What is the usual number of hours you spend in a week on this other work, in all?

0 1-5 0 11-15 0 21 or more
0 6-10 0 16-20

23. If income were not a concern or problem, would you continue working <u>now</u> at your current job?

0 Yes 0 No

24. How important is it to you that your job or line of work have any of the following characteristics? (Please answer this question even if you don't have a job at present.)

A. Extremely important and desirable
B. Somewhat important and desirable
C. Only slightly or not at all important

A B C		D E F
○○○	a. Good income	○○○
○○○	b. Job security and permanence	○○○
○○○	c. Opportunity for promotion and advancement	○○○
○○○	d. Freedom to make my own decisions	○○○
○○○	e. Work that strikes me as important or worthwhile	○○○
○○○	f. Work that is challenging and permits me to use my abilities fully	○○○
○○○	g. Work that I feel I do well	○○○
○○○	h. Work in the area in which I specialized or prepared	○○○
○○○	i. Work in pleasant surroundings	○○○
○○○	j. Interesting or exciting work	○○○
○○○	k. Flexible hours	○○○
○○○	l. Friendly, likable co-workers	○○○
○○○	m. A job free from pressure and deadlines	○○○
○○○	n. A competent supervisor	○○○
○○○	o. A job free from race or sex discrimination	○○○
○○○	p. A job that gives me status and makes people look up to me	○○○
○○○	q. Convenient travel to and from work	○○○
○○○	r. A job where I know exactly what I am supposed to do	○○○
○○○	s. Short hours	○○○
○○○	t. Long vacations	○○○
○○○	u. A supervisor who is pleasant and interested in my welfare	○○○
○○○	v. A job that allows me to be of service to others or make a contribution to society	○○○
○○○	w. A job that doesn't seriously interfere with family time and activity	○○○

D E F

25. If you are now working, go back and rate your current job on each of the characteristics indicated above, using the following scale:

D. My job is very good in this respect.
E. My job is adequate in this respect.
F. My job is poor in this respect.

If you do not now have a paid or unpaid job, skip to question 26.

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26. If you did not have a regular job in January 1978, which one of the following best describes your work status then?

- O I had no job but was looking for one
- O I was unable to work because of health disability
- O I did not want to have a job
- O Other (Specify_____)

IV. UNEMPLOYMENT EXPERIENCE

Questions 27 to 30 deal with experiences you may have had while being unemployed—that is, when you were not working for pay but were looking for a paid job. If your have never been unemployed for a period of one month or longer, please blacken this circle ○ and skip to Section V.

27. In which of the following years have you been unemployed—that is, wanting and looking for work for pay but not working for pay at the time—for four weeks (one month) or longer? (Mark as many as apply.)

O 1960	O 1965	O 1970	O 1975
O 1961	O 1966	O 1971	O 1976
O 1962	O 1967	O 1972	O 1977
O 1963	O 1968	O 1973	O 1978
O 1964	O 1969	O 1974	

28. Think about the most recent time that you indicated in Question 27 that you were unemployed. For how many weeks were you out of work and looking for work?

O 4-8 weeks	O 16-25 weeks	O 40-52 weeks
O 9-15 weeks	O 26-39 weeks	O 53 or more weeks

29. Were any of the following a particular problem for you when you were unemployed at that time?

A. Not a problem or no more than before
B. Somewhat a problem but handled with little difficulty
C. A serious problem and difficult to deal with

A	B	C	
○	○	○	a. Money
○	○	○	b. Your relationship with your spouse
○	○	○	c. Your relationship with your children
○	○	○	d. Your relationship with friends and relatives
○	○	○	e. Deciding what to do with your time
○	○	○	f. Your feelings about yourself

30. On what sources of financial support did you draw during that time? (Mark all that apply.)

- O Support from relatives (other than spouse)
- O Spouse's income
- O Savings
- O Unemployment compensation
- O Food stamps
- O Welfare
- O Bank loans or credit
- O Other (specify _____)

V. JOB CHANGE EXPERIENCE

Questions 31 to 34 deal with experiences you may have had in changing jobs. These may have involved either a change in the employer or kind of business for which you worked, or a major change in the main tasks you carried out in your work, including a change from homemaker to working for pay in the labor force. (It does not include a promotion or a change of title only.) Please answer these questions in terms of the most recent job change that you indicated in question 2. If you have never worked, or have always been in the same line of work, please blacken this circle ○ and skip to Section VI.

31. Why did you change your job at that time? (Mark all that apply.)

- O I wanted better working conditions (such as hours, location, etc.)
- O I wanted more interesting or challenging work.
- O I wanted a job with better chances for promotion or advancement.
- O I wanted more money or better fringe benefits.
- O I wanted a job that fit my skills or talents better.
- O I had moved, or was moving, to a new area.
- O Because of my health or disability
- O For family or personal reasons
- O I wanted to start (or resume) working for pay.
- O My previous job came to an end.
- O Other (Specify_____)

32. How did you find your new job?

- O I was referred by the State Employment office.
- O I was referred by a private employment agency.
- O I answered a newspaper advertisement.
- O I heard about the job from a friend or relative.
- O I found out about the job when I enquired at the company.
- O I was recruited by my new employer. (Skip to to question 34.)
- O Other (Specify_____)

33. How long did it take to find your new job after you started looking?

- O 1-2 weeks
- O 3-4 weeks
- O 1-2 months
- O 3-6 months
- O 7 months-1 year
- O More than 1 year

34. Did you need to develop new or improved skills (e.g., writing, speaking, mathematics, clerical, manual, planning, supervision) to carry out your tasks on your new job? (Mark ONE)

- O No, my new job didn't require any different skills.
- O No, I had already developed the needed skills through my earlier schooling.
- O No, I had already developed the needed skills through former work, homemaking, or volunteer experience.
- O Yes, I took classes specifically to develop the skills needed for this job.
- O Yes, I developed the needed skills on the job, after I started working on it.
- O Yes, I developed the needed skills in another way. (Specify _____ _____)

VI. CAREER PLANS

35. Which <u>one</u> of the following <u>best</u> describes your work plans for the next five years?

- O a. Leave paid work, or continue not working for pay (Skip to question 37.)
- O b. Continue my current job (same employer and same kind of work) (Skip to question 37.)
- O c. Continue my current kind of work but for a different employer (Skip to question 37.)
- O d. Change to a different kind of work
- O e. Be promoted to a more advanced job in my present line of work
- O f. Go into business for myself
- O g. Start working for pay, or return to paid work
- O h. Other (Specify_____)
- O i. I don't know.

36. If you marked any of options d-h above, please describe below the occupation (<u>job title</u> and <u>kind of business</u>) you plan to be working in 5 years from now. Be as specific as possible. (For instance, if military service, specify type of work. If teaching, indicate grade and subject.)

<u>Job Title</u>:

<u>Kind of Business</u>:

37. At what age do you now plan to retire?

- O Before age 50
- O Between 50-55
- O Between 56-60
- O Between 61-62
- O Between 63-65
- O Between 66-70
- O After 70
- O Don't know
- O I don't plan to retire if work is available.

VII. CURRENT FAMILY SITUATION

38. What is your current marital status?

- O Never married (skip to question 40)
- O Married
- O Separated
- O Divorced or annulled
- O Widowed
- O "Living together" (unmarried; common-law marriage) (Skip to question 40 unless married before)

39. Please list the date(s) of your marriage(s) and any separation and/or divorces.

	Date of marriage	Date of separation from spouse	Date of divorce	Date of death of spouse
1st marriage	__/__ mo year	__/__ mo year	__/__ mo year	__/__ mo year
2nd marriage	__/__ mo year	__/__ mo year	__/__ mo year	__/__ mo year
3rd marriage	__/__ mo year	__/__ mo year	__/__ mo year	__/__ mo year
Most recent marriage (if more than 3)	__/__ mo year	__/__ mo year	__/__ mo year	__/__ mo year

40. Do you have any children, including adopted or stepchildren?

- O Yes
- O No (skip to question 43.)

41. Please list the birthdates and current living situations of your children, including any children you have adopted and any stepchildren, starting with the oldest child.

	Birthdate	Sex of child	Natural child / Adopted child / Stepchild	Living with me / Living elsewhere / Deceased
1st child	___/___ mo year	M F	O O O	O O O
2nd child	___/___ mo year	M F	O O O	O O O
3rd child	___/___ mo year	M F	O O O	O O O
4th child	___/___ mo year	M F	O O O	O O O
5th child	___/___ mo year	M F	O O O	O O O
6th child	___/___ mo year	M F	O O O	O O O
If more than 6, list youngest	___/___ mo year	M F	O O O	O O O

42. How well do your children usually do in school?

O Outstanding O About average
O Very well O Poorly
O My children are not in school yet

43. How many (more) children, if any, do you expect to have in the future?

O None O 2
O 1 O More than 2

44. Do any of the following people live with you in the same household? (Mark all that apply.)

O Mother-in-law O Brother- or sister-in-law
O Father-in-law O Brother or sister
O Mother O Roommate or friend
O Father O None of the above

45. How many people live with you, other than your spouse and children?

O None O 2 O 4
O 1 O 3 O More than 4

46. Who carries out the following activities in you household? If two or more people are equally responsible mark "usually" for each.

	Does not apply	You		Spouse or partner		Someone else in the home		Someone else outside the home	
		Usually	Sometimes	Usually	Sometimes	Usually	Sometimes	Usually	Sometimes
A. Preparing meals	O	O	O	O	O	O	O	O	O
B. Grocery shopping	O	O	O	O	O	O	O	O	O
C. Fixing things around the house	O	O	O	O	O	O	O	O	O
D. Housecleaning	O	O	O	O	O	O	O	O	O
E. Doing laundry	O	O	O	O	O	O	O	O	O
F. Keeping up the yard; gardening	O	O	O	O	O	O	O	O	O
G. Paying bills	O	O	O	O	O	O	O	O	O
H. Deciding on expensive purchases	O	O	O	O	O	O	O	O	O
I. Contributing to family income	O	O	O	O	O	O	O	O	O
J. Caring for children when they are sick	O	O	O	O	O	O	O	O	O
K. Helping children with homework	O	O	O	O	O	O	O	O	O
L. Disciplining the children	O	O	O	O	O	O	O	O	O

47a. Does getting any of these activities (A-L) done present problems for you?

O Not at all (Skip to question 48.)
O Occasionally (Continue to 47b.)
O Frequently (Continue to 47b.)

47b. If so, which ones? Mark below the letter(s) of the activity(ies) which present problems.

O A O D O G O J
O B O E O H O K
O C O F O I O L

VIII. PRACTICAL KNOWLEDGE

We would like to know how much adults in their mid-30s generally know about different areas of practical knowledge that may be useful in managing their lives. Following are some questions relating to health and nutrition, home management, and financial management. Please try to answer these questions yourself as well as you can. Thank you.

Health and Nutrition

48. Which of the following foods has the highest protein content?
    - O Spinach
    - O Tomato
    - O Cheese
    - O I really don't know

49. In the case of a small burn from a stove causing reddening or blistering of the skin, the pain can be relieved by:
    - O Applying ice or cold water
    - O Applying butter or grease
    - O Applying baking soda
    - O Applying a bandage
    - O I really don't know.

Home Management

50. Which one of the following cartons of milk represents the best buy for the money?

    - O A
    - O B
    - O C
    - O I really don't know

51. Which of the following agencies should you contact to inquire about an error in your monthly electric bill?
    - O Better Business Bureau
    - O Social Service Agency
    - O City Comptroller's Office
    - O Utility company
    - O I really don't know

Financial Management

52. A finance charge on a credit card bill is:
    - O The total amount of the purchases you charged
    - O The minimum amount you must pay on the bill
    - O The balance remaining to be paid
    - O The interest you are charged on your unpaid balance
    - O I really don't know

53. If you borrowed $1,000 for a year at 10% simple interest, you would need to repay approximately
    - O $1,010
    - O $1,100
    - O $1,110
    - O I really don't know

We would also like to know how important these different areas of practical knowledge are for adults today. Please answer the following questions about each of the three areas of practical knowledge.

	Health & Nutrition	Financial Management	Home Management
54. How useful is the kind of information asked you in each of the above areas in your day-to-day life?			
A. Not at all useful	O	O	O
B. Occasionally useful	O	O	O
C. Very useful	O	O	O
55. How important is it to you that children be taught how to answer questions such as these before leaving high school?			
A. Very important	O	O	O
B. Important	O	O	O
C. Not very important	O	O	O
56. How confident are you of your own ability to answer questions in these areas correctly?			
A. Very confident	O	O	O
B. Confident	O	O	O
C. Only slightly confident	O	O	O
D. Not confident at all	O	O	O

IX. LIFE STYLE AND PERSONAL VALUES

57a. During a typical week, how many hours do you spend on each of the following activities?

None	1 hour or less	2-5 hours	6-10 hours	11-15 hours	16-25 hours	More than 25 hours		57b. (Mark up to 3)
0	0	0	0	0	0	0	a. Traveling to and from work	0
0	0	0	0	0	0	0	b. Taking care of or playing with children	0
0	0	0	0	0	0	0	c. Doing household chores	0
0	0	0	0	0	0	0	d. Work-related activities outside normal hours	0
0	0	0	0	0	0	0	e. Attending movies, concerts, sports events, amusement parks, etc.	0
0	0	0	0	0	0	0	f. Watching TV	0
0	0	0	0	0	0	0	g. Activities related to religion	0
0	0	0	0	0	0	0	h. Social Activities (visiting friends, parties, etc.)	0
0	0	0	0	0	0	0	i. Exercising (include jogging, bicycling, swimming)	0
0	0	0	0	0	0	0	j. Doing hobbies and crafts	0
0	0	0	0	0	0	0	k. Sports activities (golf, softball, bowling, etc.)	0
0	0	0	0	0	0	0	l. Reading	0
0	0	0	0	0	0	0	m. Volunteer activites in groups for children (PTA, scouts, etc.)	0
0	0	0	0	0	0	0	n. Other civic or community activities	0
0	0	0	0	0	0	0	o. Educational activities (taking courses, attending lectures)	0

58. What is your religion, if any?

0 Protestant 0 Other (Specify_____)
0 Catholic 0 None
0 Jewish

59. Do you own or rent your home?

0 Own 0 Rent

60a. If you rent your home, how much do you pay in rent per month?

$ _____

60b. If you own your home, approximately what is the total current value?

$ _____

61. How many rooms does your house or apartment have (not counting halls, bathrooms, or closets)?

0 1 0 4 0 7 0 10
0 2 0 5 0 8 0 11
0 3 0 6 0 9 0 12 or more

62. About how many books do you have in your house?

0 None or a few (0-25)
0 One bookcase full (26-100)
0 Two bookcases full (101-250)
0 Three or four bookcases full (251-500)
0 More than four bookcases full (more than 500)

63. Which of the following appliances, if any, do you have in your home?

0 clothes washer 0 refrigerator
0 clothes dryer 0 home food freezer (separate from a refrigerator)
0 dishwasher 0 record player
0 vacuum cleaner 0 microwave oven

64. How many times have you moved from one community (e.g., city, town, or village) to another since January 1972?

0 none 0 2 0 4 0 more than 5
0 1 0 3 0 5

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65. We have listed below 15 aspects of your life. Please rate how important each of these areas is for your overall satisfaction with your life.

A. Very important
B. Important
C. Moderately important
D. Only slightly important
E. Not at all important

A	B	C	D	E		F	G	H	I	H
O	O	O	O	O	a. Material well-being, standard of living, financial security	O	O	O	O	O
O	O	O	O	O	b. Health and personal safety	O	O	O	O	O
O	O	O	O	O	c. Personal relationships with husband/wife (or partner)	O	O	O	O	O
O	O	O	O	O	d. Having and raising children	O	O	O	O	O
O	O	O	O	O	e. Relationships with parents, brothers and sisters, and other relatives	O	O	O	O	O
O	O	O	O	O	f. Relationships with close friends	O	O	O	O	O
O	O	O	O	O	g. Activities related to helping others (e.g., church, club, and volunteer activities)	O	O	O	O	O
O	O	O	O	O	h. Political and civic activities	O	O	O	O	O
O	O	O	O	O	i. Learning; increasing knowledge and ability	O	O	O	O	O
O	O	O	O	O	j. Personal understanding, maturity, insight and inspiration	O	O	O	O	O
O	O	O	O	O	k. Occupational role (job)	O	O	O	O	O
O	O	O	O	O	l. Creativity and personal expression	O	O	O	O	O
O	O	O	O	O	m. Socializing	O	O	O	O	O
O	O	O	O	O	n. Participation in active recreation (sports, travel, hobbies, etc.)	O	O	O	O	O
O	O	O	O	O	o. Participation in observational and passive recreation (reading, TV, movies, etc.)	O	O	O	O	O

66. Now please go back and rate how well your needs and wants in each of these areas are being met at the present time.

F. My needs and wants are being met very well
G. My needs and wants are being met well
H. My needs and wants are being met moderately well
I. My needs and wants are being met only slightly well
J. My needs are not being met at all well

67a. Which of these areas (a through o) contribute the most to making your life satisfying to you at this time? (Mark up to 3.)

O a	O d	O g	O m
O b	O e	O h	O n
O c	O f	O i	O o
O none of them			

67b. Which of these areas are a major source of worry or concern to you now? (Mark up to 3.)

O a	O d	O g	O m
O b	O e	O h	O n
O c	O f	O i	O o
O none of them			

68. Which of the following are you? (Mark one)

O White/Caucasion	O Puerto Rican-American
O Black/Negro/Afro-American	O Eskimo
O Native American	O Other
O Asian/Asian-American	Specify
O Mexican-American/Chicano	

69a. Approximately what was your household's total annual income before taxes for last year (1976)? Include salary or wages from anyone who works plus income from other sources.

O Less than 6,000	O 15,000 - 24,999
O 6,000 - 9,999	O More than 25,000
O 10,000 - 14,999	O I don't know

69b. Do you find that this total income is enough for your/your family to live as comfortably as you like?

O Yes O No

70. How much life insurance do you personally carry, including insurance through your work?

O none
O $5,000 or less
O $5,000-15,000
O $15,000-35,000
O $35,000-65,000
O $65,000-135,000
O more than $135,000

71. Do you have any health insurance that covers hospitalization costs? (Mark as many as apply.)

O Yes, through another group plan
O Yes, through a private individual plan
O No, I have none

72. When your credit card bills come each month, how much of the balance do you generally pay?

O All of it, always.
O Most of the time I pay it all.
O Sometimes the whole balance, sometimes less.
O As much as I can, but usually not the whole amount.
O I usually only pay the minimum amount due.
O I do not use credit cards.

73. For how many <u>years</u> have you lived in the community (e.g., city, town) in which you <u>now</u> live?

O Less than one
O 1-2
O 3-4
O 5-7
O 8-10
O 11-14
O 15-20
O More than 20

74. We are interested in your views about yourself and the world around you. Please indicate how much you agree or disagree with each of the following statements.

A. Strongly agree
B. Mildly agree
C. Uncertain or no opinion
D. Mildly disagree
E. Strongly disagree

A	B	C	D	E	
O	O	O	O	O	a. I feel very bad when I have failed to finish a job I promised to do.
O	O	O	O	O	b. I understand politics and government pretty well.
O	O	O	O	O	c. I am able to do things as well as most other people.
O	O	O	O	O	d. It is no use worrying about current events or public affairs; I can't do anything about them anyway.
O	O	O	O	O	e. On the whole, I am satisfied with myself.
O	O	O	O	O	f. For a woman, marriage should be more important than a career.
O	O	O	O	O	g. I wish I could have more respect for myself.
O	O	O	O	O	h. Every person should give some of his/her time for the good of his/her town or country.
O	O	O	O	O	i. Women with children less than 6 years old should not work outside the home unless it is financially necessary.
O	O	O	O	O	j. These days the government is trying to do too many things, including some things I don't think it has the right to do.
O	O	O	O	O	k. I certainly feel useless at times.
O	O	O	O	O	l. People would be a lot better off if they could live far away from other people and never had to do anything for them.
O	O	O	O	O	m. Women should not hold political office
O	O	O	O	O	o. The government does fairly well at dealing with the crucial problems facing the country today.
O	O	O	O	O	p. It's important for parents to have their own lives and interests--even if it means spending less time with their children.
O	O	O	O	O	q. It is all right for women with children between 6 and 12 years old to work if they want, even if it is not necessary to make ends meet.
O	O	O	O	O	r. Parents should use the same rules in raising boys and girls.
O	O	O	O	O	s. I actively support the movement for equal rights for women.

X. HEALTH

75. Which of the following best describes your usual health in the last three years?

O Excellent O Average
O Very good O Poor
O Good O Very poor

76. Please indicate below if any of the following activities are difficult for you and, if so, how difficult.

A. Can do it easily
B. Can do it, but with some difficulty
C. Can do only with great difficulty
D. Can't do it at all

A	B	C	D	
O	O	O	O	1. See the words and pictures in newspapers or on TV (even with glasses.)
O	O	O		2. Hear what other people are saying to you.
O	O	O	O	3. Speak clearly to other people.
O	O	O	O	4. Move around without using a cane, crutches, or a wheelchair.
O	O	O	O	5. Reach for things above your head with both hands.
O	O	O	O	6. Hold onto things with both of your hands.
O	O	O	O	7. Lift up a heavy bag of groceries (more than 10 pounds) from the floor to a table.
O	O	O	O	8. Walk up a flight of stairs without getting tired.

77. How many servings per day do you usually have of the following?

	0	1-2	3-4	5+
a. Meat or dairy products (exclude milk)	O	O	O	O
b. Sweet pastry	O	O	O	O
c. Coffee or cola	O	O	O	O
d. Packs of cigarettes	O	O	O	O
e. Glasses of wine or beer	O	O	O	O
f. Alcoholic cocktails	O	O	O	O
g. Fresh fruit or vegetables	O	O	O	O

78. How many days a week do you exercise (run, swim, bike, etc.)?

O none O 1-2 days O 3-4 days O 5-7 days

79. Indicate below the number of pounds, if any, that you are overweight or underweight.

(in pounds)	0-10	11-25	26-40	41+
a. Overweight	O	O	O	O
b. Underweight	O	O	O	O

80. How many times have you been sick in bed (as much as a day) in the past year?

O none O 5-6 times
O 1-2 times O 7-8 times
O 3-4 times O More than 8 times

XI. SUMMING UP . . .

81. At the present time, how would you describe your overall quality of life?

O Excellent O Fair
O Very good O Poor
O Good

82. Compared to your life today, how do you think things will be 5 to 10 years from now?

O Much better O A little worse
O A little better O Much worse
O About the same

83. Most people have "second thoughts" later on, about some decisions they have made. What would you have done differently in the light of what you now know? (Mark as many as apply.)

O I would have stayed in school longer than I did.
O I would not have stayed in school as long as I did.
O I would have combined work and school.
O I would have chosen a different major field in college.
O I would have waited longer before starting college or graduate school.
O I would not have waited as long before starting college or graduate school.
O I would have gone into some other line of work.
O I would have gotten married earlier than I did.
O I would have gottten married later than I did.
O I would/would not have had children
O I would have had children earlier than I did.
O I would have had children later than I did
O Other

(Specify)

O I wouldn't have done anything differently.

XII. SPOUSE QUESTIONS

PLEASE ASK YOUR HUSBAND OR WIFE, OR PARTNER TO ANSWER THE QUESTIONS ON THIS PAGE. THANK YOU.

If you do not have a spouse or partner, please mark here ○ and continue on to the next page.

1. What is the date of your birth? _____
   Month Day Year

2. Which of the following are you? (Mark all that apply.)
   - O White/Caucasian
   - O Black/Negro/Afro-American
   - O American Indian
   - O Asian/Asian-American
   - O Mexican-American/ Chicano
   - O Puerto Rican-American
   - O Eskimo
   - O Other (Specify) _____

3. Which of the following degrees or licenses have you obtained? Mark as many as apply.

O High school diploma	O
O Associate degree (two-year degree: A.A., A.S., etc.)	O
O Professional/technical license (R.N., C.P.A., etc.)	O
O Bachelor's degree (B.A., B.S., etc.)	O
O Master's degree (M.A., M.S., etc.)	O
O Ph.D. or Ed.D.	O
O Advanced professional degree (M.D., D.D.S., LL.B., etc.)	O
O Other (Specify) _____ (Specify) _____	O

4. Which, if any, of these degrees or licenses do you expect to obtain in the future? Mark as many as apply.
   If none, mark here. ☐

5. Which one of the following activities best describes your work situation as of January, 1978? (Include active military service as a full-time paid job.)
   - O I had a full-time job.
   - O I had a regular part-time paid job.
   - O I had an unpaid job (other than homemaker).
   - O I was a full-time homemaker.
   - O I was in school full time.
   - O I couldn't work because of poor health or disability.
   - O Other (Specify _____)

   IF YOU DO NOT HAVE A JOB (PAID OR UNPAID) SKIP TO QUESTION 10.

6a. What was the title of the job? _____

6b. What did you do on this job? (Please be specific.)

_____

6c. What kind of business or industry was this? (For example: county junior high school, auto assembly plant, radio service) Specify below.

_____

7. What is the usual number of hours you spend in a week working on this job ?
   - O 1-15
   - O 16-25
   - O 26-35
   - O 36-45
   - O 46-55
   - O 56 or more

8. Approximately what was your total income in 1977 from this job, in wages or salary, or in net income from your own business, professional practice or farm?
   O None $ _____

9. To what extent does your job or line of work require you to do any of the following? (Mark as many as apply.)

A Not at all
B Occasionally
C Often

A	B	C	
O	O	O	a. Participate in certain social or community activities in your free time.
O	O	O	b. Work under severe time pressure.
O	O	O	c. Work overtime at your work place or at home.
O	O	O	d. Move to a new location.
O	O	O	e. Travel away from home.
O	O	O	f. Entertain business associates or clients.

10. Please indicate how much you agree or disagree with each of the statements below. Mark for each statement:

A if you strongly agree
B if you mildly agree
C if you are uncertain or have no opinion
D if you mildly disagree
E if you strongly disagree

A	B	C	D	E	
O	O	O	O	O	a. For a woman, marriage should be more important than a career.
O	O	O	O	O	b. Women with children less than 6 years old should not work outside the home unless it is financially necessary.
O	O	O	O	O	c. Women should not hold political office.
O	O	O	O	O	d. It is all right for women with children between 6 and 12 years old to work if they want, even if it is not necessary to make ends meet.
O	O	O	O	O	e. Parents should use the same rules in raising boys and girls.

REFLECTIONS
(Optional Section)

This questionnaire has asked you to describe your current life situation and some of the events since 1960 that have led up to your life situation today. As you think back over these years, think of the one event or experience that you would say had the most influence on shaping your life course.

What was this event or experience?

When (in what year) did it occur?

How did it affect the course of your life at that time?
How did it influence your plans, decisions, or actions?

THANK YOU VERY MUCH FOR TAKING THE TIME AND TROUBLE TO FILL OUT THIS QUESTIONNAIRE. PLEASE RETURN IT TO US TODAY, USING THE RETURN ENVELOPE PROVIDED.

ATTACHMENT 6

17-YEAR SURVEY TECHNICAL SAMPLING PLAN

ATTACHMENT 6

17-YEAR SURVEY TECHNICAL SAMPLING PLAN

A. 3-Level Stratification

The overall approach for each grade cohort is to first draw the 6,000-case level 3 sample that includes 3,000 self-weighted cases drawn from the entire cohort, 1,000 cases with complete data records (i.e., with data from each of the 3 follow-ups), 1,000 additional minority cases, and 1,000 cases from a group of unique interest within each grade cohort. The definition of the unique interest group (UIG) for each grade cohort is shown in Table 8. The 3,000-case sample, consisting of the Control and Core Samples, is then drawn from within the first sample with one-third of the selected cases assigned to the Control Sample and the other selected cases assigned to the Core Sample. After the 6,000-case sample is drawn, the cases to be selected for Other Prior Respondent Sample (all 1-year and 5-year special respondents and 11-year regular and special respondents not selected and 1,000 Knox County cases from the nonprobability file) are defined with certainty and may also be added to the overall 17-year sample file.

In drawing the 6,000-case sample for each grade cohort, the following stratification design is used: Unique Interest Group (UIG) (2 levels) x Minority Enrollment (ME) (2 levels) x 1-year Response Status (3 levels) x 5-Year Response Status (3 levels) x 11-year status and 1960 weight (15 levels).

Conceptually the design is organized into 3 levels. Level 1 consists of the four cells defined by UIG x ME; within each level 1 cell there are 9 level 2 cells defined by 1-Year Status x 5-Year Status; and within each of the 36 cells defined by levels 1 and 2 are 15 level 3 cells including one cell for all regular respondents and 14 cells for non-regular respondents stratified on 1960 weight A as shown in Table 9. In all, the design contains 4 x 9 x 15 = 540 cells. Figure 9 shows the organization of the level 1 and 2 cells.

B. Setting Sampling Thresholds or Ratios

The first step is to set weight thresholds or sampling ratios for each of the 36 x 15 cells (i.e., for the one 11-year regular and 14

Table 8

Significant Interest Groups by Grade Cohort

Grade	UIG Level 1	UIG Level 2
12th Grade	Nongifted (C002 $\leq$ 721)	Gifted (C002 $\geq$ 721)
11th Grade	All probability file cases	Knox County Nonprobability case
10th Grade	Noninterview cases (Not on 3-hr interview data tape)	Interview cases (On 3-hour interview data tape)
9th Grade	Nonretest case (Not a "complete data" retest case)	Retest case ("complete data" case on the Retest data tape)

Table 9

Weight Groups

Group Number	Range	Sr. HS Values	High value/ low value
1	0.0-9.9	3.0	1.00
2	10.0-14.9	13.0	1.00
3	15.0-17.9	16.2	1.00
4	18.0-19.9	18.6,19.0	1.00
5	20.0-21.9	20.0,20.6,20.7 21.0,21.1,21.3,21.4,21.7	.98
6	22.0-24.9	22.0,22.1,22.5 23.0,23.1,23.3,24.0	.92
7	25.0-28.9	25.0,26.0,26.7	.94
8	29.0-33.9	31.4,32.5,33.3	.94
9	34.0-39.9	35.0	1.00
10	40.0-46.9	40.0	1.00
11	47.0-54.9	50.0,52.2,52.3,54.2	.92
12	55.0-63.9	57.1	1.00
13	64.0-73.9	65.0	1.00
14	74.0+	75.0	1.00

			Non UIG Cases		UIG Cases	
Level 1 Cells:			Min. Enroll. <90%	Min. Enroll. ≥90%	Min. Enroll. <90%	Min. Enroll. ≥90%
Level 2 Cells						
	1-Year Status*	5-Year Status*	1	2	3	4
1	Reg(1)	Reg(1)				
2	Reg(1)	SR(2)				
3	Reg(1)	NR(3,4)				
4	SR(2)	Reg(1)				
5	SR(2)	SR(2)				
6	SR(2)	NR(3,4)				
7	NR(3,4)	Reg(1)				
8	NR(3,4)	SR(2)				
9	NR(3,4)	NR(3,4)				

*The response status for each follow-up survey is coded as follows:
1 - regular mail survey respondent
2 - special sample respondent (respondent to the telephone follow-up survey)
3 - special sample nonrespondent (nonrespondent in the telephone survey)
4 - other nonrespondent (mail survey nonrespondent not selected for the telephone survey)

Figure 9. Levels 1 and 2 of the sampling design

nonregular cells--based on the 14 weight levels--within each level 1 and 2 cell) before the adjustments for 11-year special sample and 4% sample cases are made. The process is as follows:

1. Set target n's for level 1 sampling by allotting the 3,000 core cases and 1,000 "complete data" cases proportionally across the four level 1 cells (UIG x Minority enrollment) and then adding 1,000 cases each proportionally across the two UIG cells and the two high minority enrollment cells. If P_{ij} is the weighted proportion of cases in level i of UIG and level j of ME, then the target n's are:

$$n_{11} = 4{,}000\ P_{11}$$

$$n_{12} = 4{,}000\ P_{12} + 1{,}000\ \frac{P_{12}}{P_{12} + P_{22}}$$

$$n_{21} = 4{,}000\ P_{21} + 1{,}000\ \frac{P_{21}}{P_{21} + P_{22}}$$

$$n_{22} = 6{,}000 - n_{11} - n_{12} - n_{21}^{*}$$

2. For each of the four level 1 cells allot the target n's across the nine level 2 cells, using the algorithm described in Attachment D to Interim Report #1 (15 February 1977), except that 11-year optimization is ignored (it is taken care of within each cell) and the following constraints are added:

   a. The minimum target n for each cell is 3,000 times the weighted proportion of the total cases that fall in the cell, in order that the 3,000-case core sample may be self-weighted. If the optimal n is less than the minimum, then it is set to the minimum and the remaining n's are reoptimized.

---

*It turned out that the number of high minority enrollment cases in the Unique Interest Group was small enough (a maximum of 245 for the 9th grade) that all such cases could be chosen. The target for n_{11} was reduced slightly to bring the total back down to 6,000.

b. If the optimal n is greater than the total n for the cell, then it is set to the total n and the remaining n's are reoptimized. In this instance, a sampling ratio of 1 will be used for this cell (and all of its subcells).

c. If the final optimal n is greater than S/MX (the sum of weights divided by the maximum weight for the cell), then a sampling ratio is set as the optimal n divided by the total n; otherwise a threshold is set as S/n (the sum of weights divided by the optimal n) and the cases within the cell are sampled according to weight.*

3. Within each of the 36 level 1 and 2 cells, target n's are allotted across the one 11-year regular and 14 nonregular cells in order to maximize the number of 11-year respondents by trying to take all of the special sample members and as many regular respondents as possible within the constraints imposed by the need to draw at least enough cases from each of the 15 cells to include 5,000 self-weighted cases. The procedure is as follows:

a. For each of the 14 nonregular cells, a "trial n" is set as the maximum of 3,000 P and N_S where P is the sum of weights in the nonregular cell divided by the grand total sum of weights and N_S is the number of 11-year special

*In both cases the sampling is systematic with respect to student test numbers so as to reverse the initial clustering by school insofar as possible. Where a sampling ratio is used, a counter is assigned a random start value between 0 and the inverse of the ratio (not necessarily an integer value). The counter is incremented by 1 for each case in the cell and whenever the counter passes an exact multiple of the inverse ratio, the corresponding case is selected. Where sampling with probabilities proportional to the 1960 weights is used, the procedure is the same except that the "threshold" value replaces the inverse ratio and the counter is incremented by the value of the 1960 weight rather than 1.

sample cases in the cell. If the number of cases remaining for the regular cell is at least the total number allotted to all 15 cells times the weighted proportion of 11-year regulars in these 15 cells, then the trial n's are accepted; otherwise the target n for regulars is set to the proportionate n and the trial n's are reduced in proportion to the differences between the trial n's and the minimum n's (3,000 P).

b. If the number of regulars to be drawn exceeds the number available, then the excess is reassigned to the nonregular cells in proportion to the number of cases not included in the trial n's.

C. Sampling Within Each Cell

Within each of the 11-year nonregular cells, the 11-year special sample members consitute a representative sample of all cell members. In order to increase the number of cases with 11-year data, it is highly desirable that these cases be "chosen first." The procedure for accomplishing this involves splitting each nonregular cell into a special sample and another nonregular subcell and assigning thresholds as follows:

1. If first-order sampling is proportional to 1960 Wts A, then the threshold for specials, T_s, is set to $\frac{S_s}{S} T$ where T is the overall threshold for the cell, S and S_s are the sums of Weights A for everyone in the cell and for specials. If some special sample members have weights larger than T_s, then T_s is set to M_s, the maximum 1960 weight of the specials. In this case, fewer specials will be chosen, so some nonrespondents must also be sampled. The threshold for other nonrespondents, T_n, is then set to $(S - S_s) / (\frac{S}{T} - \frac{S_s}{M_s})$, otherwise a flag is set indicating other nonrespondents are ignored.

2. If sampling is independent of 1960 weights, then if the desired sample size, n, is less than the number of specials, N_s, then every kth special is chosen where $k = N_s / n$ and other nonrespondents are ignored; otherwise all specials and every kth other nonrespondent are selected where $k = N_n / (n - N_s)$, where N_n and N_s are the total numbers of specials and other nonrespondents, respectively.

In order to maximize the number of 4% sample cases selected (for whom item data and original answer sheets are available), each of the cells will be further divided into 4% sample and non-4% sample cases. The thresholds or sampling ratios for each subcell will be adjusted with the same procedure used for the 11-year special and other nonregular subcells described under 1 and 2 above.

D. Subsampling the Sample

The above procedures will yield an approximately 6,000-case sample that includes an oversampling of the group of special interest for each grade cohort, students from high minority enrollment high schools, and participants with complete follow-up data. Within this sample, a subsample of 3,000 cases will be selected so as to be self-weighting. For each of the 36 x 15 basic cells, the target n for the subsample is equal to $3,000\ S/S_t$ where S is the sum of weights for the cell and S_t is the grand total sum of the weights.

For each cell, the procedure for drawing the core sample cases from the 6,000-case sample will be the opposite of the procedure used to draw the 6,000-case sample. If sampling in proportion to weights was used, then every kth case will be selected for the subsample where k equals the original target number divided by the subsample target number (and is not necessarily integer). If every kth case was selected for the expanded sample, then the subsample will be selected in proportion to weights using a threshold equal to the sum of weights for all 1960 cases in the cell times the initial sampling ratio divided by the target subsample size.

Within each of the 11-year nonregular cells, the procedure described in C1 and C2 above will be used to "select the 11-year special sample members first." Similarly, within each of the regular cells and the nonregular subcells (specials and other nonregulars), the 4% sample cases will be "chosen first."

E. Augmenting the Sample

Each 11-year regular and special respondents and each 1-year or 5-year special respondent not otherwise selected will be included in the "augmented" sample along with 1,000 Knox County cases to be selected from the "nonprob" file.

F. Case Weights

For the 1,000- and 3,000-case subsamples, the cases selected are self-weighting so that case weights are unnecessary. For the 6,000-case sample, case weights are required to produce unbiased national estimates because of the oversampling of certain groups in the sampling design. For each of the 540 (4 x 9 x 15) cells in the above design, either a weight or a weight multiplier will be assigned to all cases selected from the cell. If the original sampling was done in proportion to 1960 weights, then each case is assigned a weight equal to the sum of 1960 weights for all of the 1960 cases in the cell divided by the number of cases selected. Where cases were selected according to a constant sampling ratio, each of the 1960 weights of the selected cases is multiplied by the ratio of the total number of cases in the cell to the number of cases selected.

G. Implementation

An overall system flowchart for the computer programs to implement the sampling plan is presented in Figure 10.

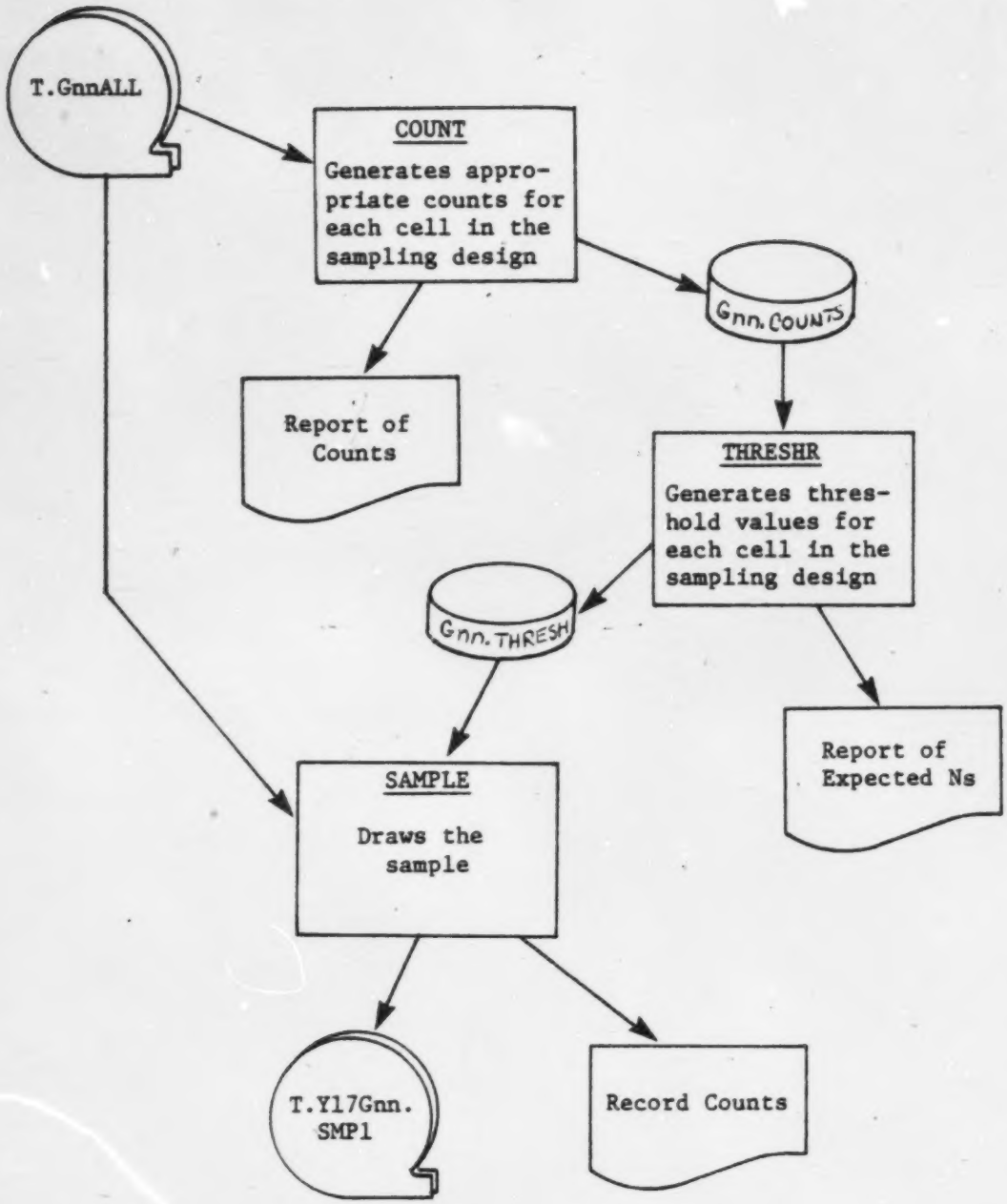

Figure 10. Overall System Flowchart: 17-year survey sample construction